



ELECTRONIC ARTS

ED DILLE



TM
SSN-21



SEAWOLF

THE OFFICIAL STRATEGY GUIDE

ISBN 1-55958-527-7



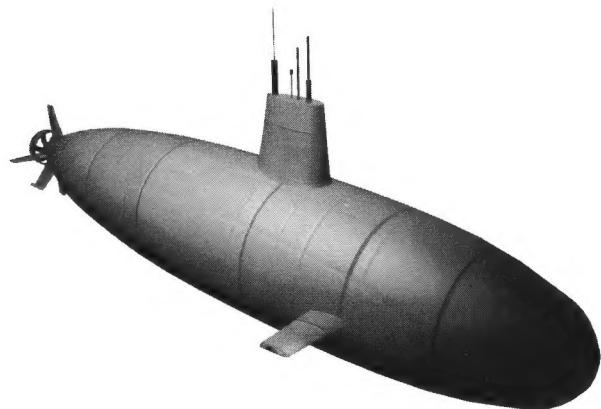
UPC

5

84874 00527

SSN-21 Seawolf

The Official Strategy Guide



SECRETS OF THE GAMES

Now Available from Prima

COMPUTER GAME BOOKS

SimEarth: The Official Strategy Guide

JetFighter II: The Official Strategy Guide

The Official LucasFilm Games Air Combat Strategies Book

Chuck Yeager's Air Combat Handbook

Ultima: The Avatar Adventures

Ultima VII and Underworld: More Avatar Adventures

A-Train: The Official Strategy Guide

PowerMonger: The Official Strategy Guide

Global Conquest: The Official Strategy Guide (with disk)

Falcon 3: The Official Combat Strategy Book (with disk)

Gunship 2000: The Official Strategy Guide

Dynamix Great War Planes: The Ultimate Strategy Guide

SimLife: The Official Strategy Guide

Populous: The Official Strategy Guide

Stunt Island: The Official Strategy Guide

Prince of Persia: The Official Strategy Guide

X-Wing: The Official Strategy Guide

Empire Deluxe: The Official Strategy Guide

F-15 Strike Eagle III: The Official Strategy Guide (with disk)

Lemmings: The Official Companion (with disk)

Secret of Mana Official Game Secrets

The 7th Guest: The Official Strategy Guide

Myst: The Official Strategy Guide

Return to Zork Adventurer's Guide

Microsoft Flight Simulator: The Official Strategy Guide

Strike Commander: The Official Strategy Guide

Might and Magic Compendium: The Authorized Strategy

Guide for Games I, II, III, and IV

SimFarm Almanac: The Official Strategy Guide

Computer Adventure Games Secrets

Quest for Glory: The Authorized Strategy Guide

SimCity 2000: Power, Politics, and Planning

Master of Orion: The Official Strategy Guide

How to Order:

Individual orders and quantity discounts are available from the publisher, Prima Publishing, P.O. Box 1260BK, Rocklin, CA 95677; phone (916) 786-0426. For Quantity orders, include information on your letterhead concerning the intended use of the books and the number of books you wish to purchase. For individual orders, turn to the back of the book for more information.

SSN-21 Seawolf

The Official Strategy Guide

Ed Dille



Prima Publishing
P.O. Box 1260BK
Rocklin, CA 95677

Secrets of the Games is an imprint of Prima Publishing, Rocklin, California 95677

© 1994 by Ed Dille.

All rights reserved. No part of this book may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or by any information storage or retrieval system without written permission from Prima Publishing, except for the inclusion of quotations in a review.

Library of Congress Catalog Card Number: 93-87193

ISBN: 1-55958-527-7

Executive Editor: Roger Stewart

Managing Editor: Neweleen A. Trebnik

Creative Director, Secrets of the Games: Rusel DeMaria

Project Editor: Becky Freeman

Cover Production Coordinator: Kim Bartusch

Copy Editor: Judith Abrahms

Technical Reviewer: Tom Basham

Book Design and Layout: Marian Hartsough Associates

Special Image Processing and 3D Renderings: Ocean Quigley

Adaptation to Cover: The Dunlavey Studio

Indexer: Katherine Stimson

Business Development and Licensing for Prima Publishing: Ron Resnick

All products and characters mentioned in this book are trademarks of their respective companies.

Prima Publishing, Inc., has made every effort to determine that the information contained in this book is accurate. However, the publisher makes no warranty, either expressed or implied, as to the accuracy, effectiveness, or completeness of the material in this book; nor does the publisher assume liability for damages, either incidental or consequential, that may result from using the information in this book. The publisher cannot provide information regarding game play, hints and strategies, or problems with hardware or software. Questions should be directed to the support numbers provided by the game and device manufacturers in their documentation. Some game tricks require precise timing and may require repeated attempts before the desired result is achieved.

94 95 96 97 CWO 10 9 8 7 6 5 4 3 2 1

Printed in the United States of America

Table of Contents

| | |
|--|-----------|
| How to Use This Book | vi |
| Chapter 1 Know Your Environment | 2 |
| Ocean Layering | 4 |
| Sound Propagation..... | 5 |
| Types of Noise..... | 10 |
| Detection Vs. Counter-Detection | 13 |
| Summary..... | 17 |
| Chapter 2 Know Your Boat | 19 |
| Welcome Aboard, Captain! | 19 |
| Break for Chow | 39 |
| Chapter 3 Know Your Mission and Tactics | 41 |
| Command at Sea..... | 42 |
| The Naval Mission Triad..... | 43 |
| Solution to TACSIT One | 65 |
| Solution to TACSIT Two | 66 |
| Summary..... | 67 |
| Chapter 4 Know Your Enemy | 69 |
| Why Knowledge Is Power..... | 69 |
| Surface Warfare Doctrine | 70 |
| Submarine Operating Doctrine..... | 88 |
| Summary..... | 103 |

| | |
|--|----------------|
| Chapter 5 The Calm Before the Storm | 105 |
| JCS Threat Briefing | 105 |
| JCS After-Action Summary | 133 |
| Chapter 6 Northern Lights..... | 135 |
| JCS Threat Briefing | 135 |
| Chapter 7 Mediterranean Nights | 169 |
| JCS Threat Briefing | 169 |
| Chapter 8 East Meets West..... | 199 |
| JCS Threat Briefing | 199 |
| Chapter 9 Seven Days in Hell | 235 |
| JCS Threat Briefing | 235 |
| Glossary | 277 |
| Bibliography | 283 |
| Index..... | 285 |

Acknowledgments

Many people assume that the craft of writing is a solitary pursuit, practiced by mystical types who emerge into society only once in a great while to peddle their wares. It's a wonderful myth, and I still chuckle inside at the awe and admiration that so many people express upon learning how I earn my paychecks. The reality of it, however, is that writing is a job like many others, where hard work and dedication bear the fruits of success and inaction yields its usual reward.

Writers do not operate in a societal vacuum, either. We must interact with countless people: agents, layout staff, proofreaders, developers, designers, and even (gasp!) editors, whose pens are poised to slash our treasured constructions to within an inch of their vicarious lives. As in the rest of society, these occupations are filled with a wide variety of people, some of them consummate professionals, others dangerous incompetents. Over time, you learn to take the bad with the good, but it is always a pleasant surprise when there is nothing bad to say.

Such was the case with *SSN-21 Seawolf*. Every single person that I have interacted with at Prima turned out to be a gem. My greatest debt of gratitude goes to Rusel DeMaria, for bending Roger Stewart's ear long enough for him to say, "Hey, who is this guy, anyway?" Rusel, I owe you man. Many thanks are also due Roger Stewart and Ron Resnick, who not only added their support and confidence throughout the project, but also made the business end of it work so smoothly.

Becky Freeman, my Editor, turned out to be a beacon in the night (literally, as it seemed that neither of us slept when the project was coming to a close), guiding this ship safely away from the rocks and shoals of publishing. Becky, you are a joy to work with and I look forward to collaborating on many future titles. Also, for countless

hours of support in marketing and promoting the book, Debbie Parisi deserves much more praise than this space allows. Likewise for Diane Pasquetti, who faithfully bird dogged Roger Stewart when I needed to speak to him and took care of many, many other administrative details related to the project.

I also owe a debt of gratitude to the other people who helped us turn pages around quickly when necessary, including: Kim Larson, Marian Hartsough, Judith Abrahms, Randie Miller, and Katherine Stimson.

Finally, to Tom “KC” Basham, fellow author and armchair aviator extraordinare. We are going to do a book together yet, grasshopper!

—Huntington, West Virginia
March 22, 1994

How to Use This Book

SSN-21 Seawolf: The Official Strategy Guide may differ from other strategy books that you have used in the past. The reason has to do with the nature of the game itself. Unlike adventure or puzzle games, *Seawolf* does not lend itself to a single “set-piece” solution. Instead, each scenario has been designed with multiple starting positions and up to 20 patrol points for each unit. This increases the replay value of the game considerably, but it also renders impossible the exploration of every possible alternative in each scenario. Therefore, the first section of the book places its greatest emphasis on the development of your broad tactical skills rather than on specific situations. These four chapters are devoted to establishing a foundation of knowledge concerning modern undersea warfare. If you are relatively new to military simulations, or have played only flight simulations up to this point, we recommend that you read these chapters in order before starting to play.

The first chapter focuses exclusively on developing an understanding of the tactical implications that arise from environmental conditions. You will learn how to use natural ocean phenomena, such as thermal layers, to your advantage, as well as how to prevent your opponent from doing the same. Comprehension of this material is critical for all subsequent discussion, so please go over Chapter 1 thoroughly before moving on.

Chapter 2 will take you inside the *Seawolf*, from the perspective of a commanding officer. The strengths and limitations of the *Seawolf*'s various sensors and weapons systems will be explored, along with the menus that govern their operation. The intent of this

section is to streamline material contained in the original manual so that you can learn to navigate through the command and control functions of the *Seawolf* with rapid precision. Mastery of the information presented is necessary to prosecute multiple contacts simultaneously and efficiently. Without that skill, you will not survive for very long in a multi-threat environment.

Chapter 3 teaches you how to differentiate among several types of tactical situations, to prioritize threats, and to apply specific solutions to recognized situations. These discussions of applied theory are also critical to your understanding of the mission replays presented in the second half of the book. Because of their importance, these lessons are reinforced with two tactical exercises, designed to test your retention of the material presented up to that point.

Chapter 4 deals with the specific platforms you will encounter in the game, including surface, subsurface, and air units. The artificial intelligence routines that govern these units will be examined in detail, so that you will learn what to expect from the opposition in each scenario. Please note that these routines become more sophisticated in the later scenarios. A Sovremenny class DD might be relatively easy to neutralize in the first dozen missions, for example, then become progressively more deadly and difficult to kill from that point forward. In addition, this chapter will provide all the weapons data you will ever need and then some.

The second half of the book is divided into several chapters, each of which covers a group of scenarios that are related, either geographically or by level of difficulty. As we have mentioned, these missions have multiple starting positions. Consequently, the actual record of engagement for each mission will be for the most common variant that you will encounter over the course of multiple replays.

Each mission is analyzed using a common structure in order to provide continuity of approach throughout the entire campaign. The first section presents the political and military situation at problem start. This is followed by a detailed intelligence analysis that includes the enemy order of battle (i.e., all the ships and submarines you will encounter in the scenario), as well as other information that may influence decisions about your initial battle plan. Next comes a synopsis of your orders for the mission, extracted from the original game screens and clarified as necessary.

The final section before actually getting under way for the mission is titled “Executive Officer’s Comments.” To eliminate any confusion

immediately, you will find no references to the executive officer in the game itself. Rather, this is the author's forum, from which he can act as your "right-hand man," offering advice and commentary on important considerations for the upcoming mission. This guidance is purposely left incomplete, so it remains acceptable reading even for those players who want to maintain the element of surprise.

The Captain's Log contains excerpts from an actual post-mission printout of the mission under examination. Though the *Seawolf* may suffer some damage in these encounters, the log will always reflect a successful mission profile. When you review these logs, please remember that they are not intended to be light bedtime stories. Rather, like real navy logs, they exclude the dramatics and present the straight tactical facts. It would have been nice if Electronic Arts had gone a step further and included course and speed changes on the record but, unfortunately, this feature could not be implemented in the current version. What you want to take away from the log is an idea of the proper order of engagement, as well as the matching of ordnance to target type and proper salvo size. The final section of each mission contains a more detailed debrief of the engagement and any lessons that were learned in the course of the mission. If you are having trouble with a given mission, chances are you will find what you have overlooked in this section.

If you are an experienced simulations player, or simply prefer to jump straight into a game, please feel free to do so. When you experience problems, begin your study with the specific mission analysis beginning with Chapter 5. If this doesn't provide an obvious answer to your question, go back to Chapters 1 through 4 to find that which you think most closely approximates the root of your problem. For example, if you find that enemy ships are consistently lobbing SSN-14 torpedoes on top of your position, you might want to find out what you are doing to help them detect that position. In this case, a review of thermal layers, cavitation speed, and depth settings might be in order. You will find the passages that discuss these topics through either the table of contents or the index. The former will give you a general idea of the topic's location and may stimulate you to look under other headings; the latter is, of course, keyed to specific buzzwords and terms used throughout the text. Use whichever method you are most comfortable with to obtain the necessary information, then get back to the game. After all, sailors were meant to be on ships, and ships were meant to be at sea!

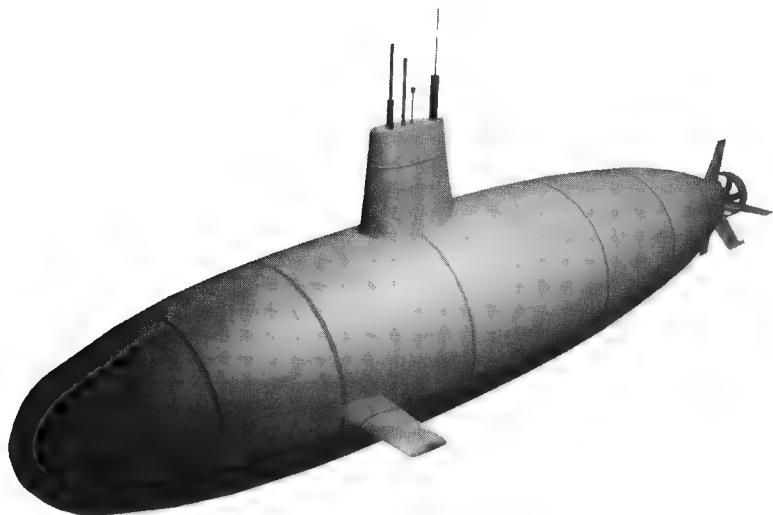
Dedication

This book is dedicated primarily to the men and women who go in harm's way daily; with whom I served proudly for the majority of my adult life.

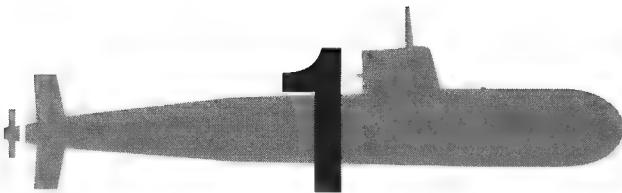
Second, to my wife Tami, who resents every instant she isn't in first place. Without her assistance and patience, this book would not have been possible. My debt to her is immeasurable, and my love unending.

SSN-21 Seawolf

The Official Strategy Guide







Know Your Environment

A submerged submarine is blind, in every conventional sense of the word. Therefore, she must learn to “see” by interpreting sound, just as a blind person does. This is a learned response to stimuli, not an inherent ability. As Commander of the *Seawolf* (SSN-21), you control the most advanced sonar suite in the world. Your hearing is excellent, but if you cannot distinguish between a car that is idling and an oncoming freight train, you will end up as dead as a blind person with the same shortcoming.

Therefore, the first prerequisite for success is to develop the ability to use your operating environment to your tactical advantage. You must become intimate with the intricacies of sound propagation in the ocean. You must learn to see without being seen. Further, you must consistently be better at it than your opponent, because it takes only one lapse of judgment to end an otherwise illustrious career. So far, no one has survived such a lapse to be able to describe to the rest of us the effects of having a pressure hull implode at 500 feet. Our guess is that it wouldn’t be a pretty sight.

The SQS-35 is designed to ensonify the region below the first thermal layer. The towed body is lowered to depths of several hundred feet and sends active sonar transmissions when commanded to by the operator on board ship. The SQS-35 can also be used in conjunction with the SQQ-18 Passive Towed Sonar Array. *U.S. Naval Institute Archives*

The Seawolf Weapons System can help you prevent such a fatal mistake. If used properly, the *Seawolf*'s combination of superior hull silencing and advanced sonar processing will provide you with a window of opportunity in every engagement. Stealth and surprise, the traditional strengths of the submarine, are yours if you can recognize these opportunities and capitalize on them with swift, decisive action.

The first step in this process is to know your environment.

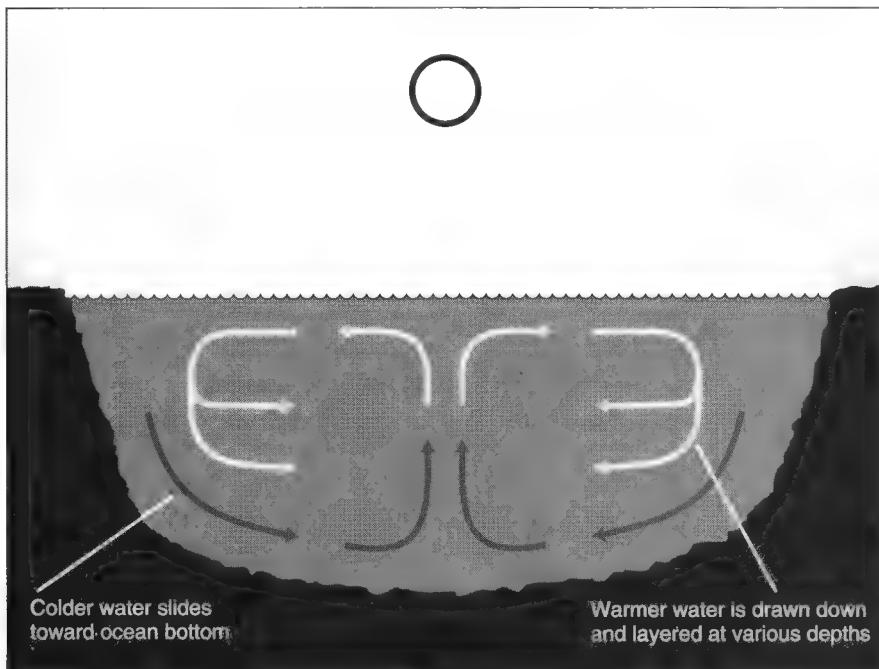


OCEAN LAYERING

The ocean is a dynamic environment, continually mixed by wind, waves, currents, and tidal action. These forces have the greatest effects near the coasts, but are present throughout the ocean. At any given point on the surface, large variations in temperature are common, because of the mixing of water that results from wind and wave action, as well as the effects of heating and cooling. During the day, the sun's rays warm the surface layer, exciting individual water molecules in the energy transfer process. This causes individual particles to spread out, making the entire layer of warm water less dense than its cooler counterparts. The depth to which this warming penetrates varies with the length of the day and other factors, but all water above that depth is raised to a constant temperature. This layer is referred to as the *surface isothermal layer*.

During this surface activity, the forces of deep ocean currents are also at work. The coldest, densest layers of water slide away from the continental shelves, following the bottom contours until they collide with one another. At the points of these collisions, there is an upwelling of cold water that reaches the surface and spreads. The circular eddies that this creates, which can be hundreds of miles long, draw the warmer surface water down hundreds of feet, spreading it in layers throughout the ocean. This layering is best illustrated by viewing the system in microcosm, with the understanding that the entire process is occurring simultaneously at many points throughout the ocean.

Now that you understand how thermal layers are formed, you must learn how to use this knowledge on the battlefield. Remember, your objective is to see without being seen. In proper military parlance, we would say your goal is to detect the enemy without being counter-detected. In



The formation of ocean thermal layers

pursuit of this goal, you will discover that thermal layers can work either for you or against you.

SOUND PROPAGATION



A sound wave is a pressure wave that emanates from a source. At the source, the intensity of the wave is the strongest. The unit of measure for this intensity is the decibel (db). As the wave moves away from the source, it expands and loses strength; its energy spreads across the increased surface of the wave until it dissipates altogether. If you were to measure the energy of the wave at the midpoint of the cycle, you would find that the db reading had decreased significantly from that taken at the source level. This reduction results from *transmission loss*. This is an aggregate measure of several other factors, including spreading loss, surface boundary loss, bottom boundary loss, attenuation, and sound velocity distribution. To

clarify how these factors interact with one another, we will address each separately.

Spreading Loss

In a purely homogenous unbounded medium, which we have already shown the ocean not to be, sound would emanate from an omnidirectional point source in straight rays. The leading edges of these rays would compose a spherical wave front. As the sphere expands, or propagates through the medium, its surface area naturally increases. Because the same initial energy must be spread across the entire wave front, the intensity of the sound at any given point on the front must continue to diminish as the wave travels further from the source.

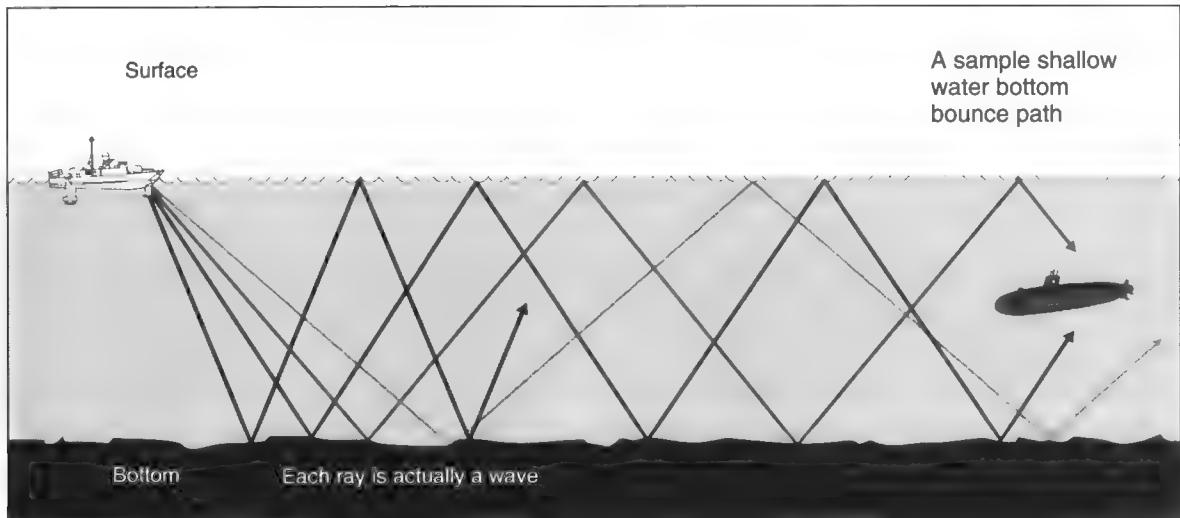
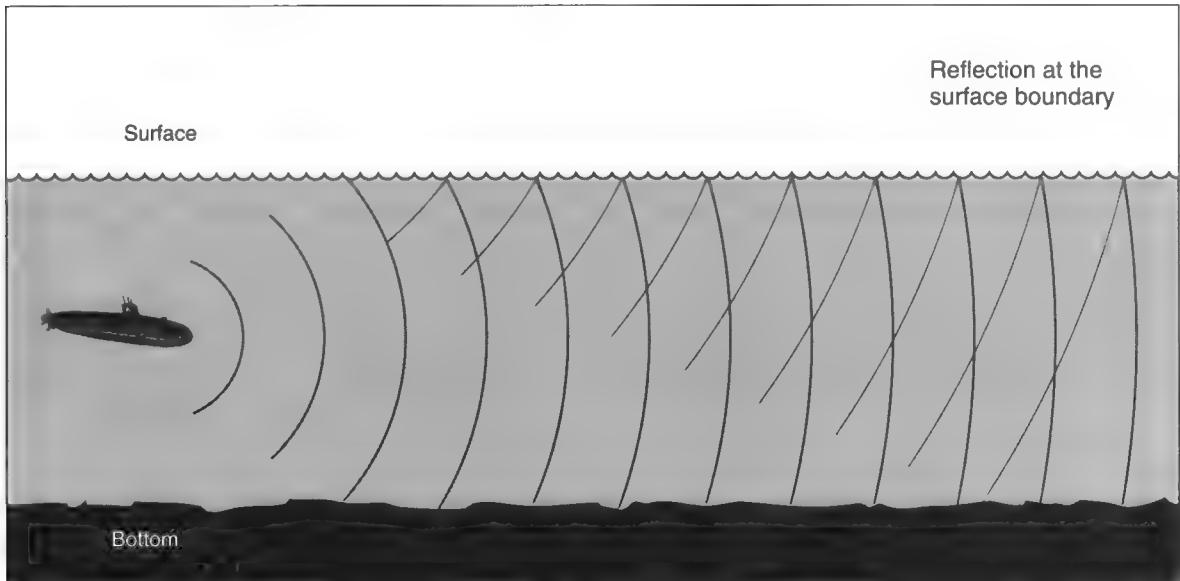
The Surface Boundary

Because the ocean is not an unbounded medium, you must also consider what happens to the pressure wave when it runs into the surface boundary. If the surface were completely smooth, which is occasionally the case, it would act as a perfect reflector. The wave would strike the surface and bounce back in a new path determined by the angle of incidence at the time of contact. This process is best illustrated by focusing on just a small portion of the spherical wave front as it reaches the surface, as in the illustration.

When the surface of the ocean is rough, as is more often the case, the pressure wave is still reflected, but it will experience losses as a result of *scattering* on the uneven surface. Small portions of the main wave will be reflected in different directions from that of the main front, which again lowers the sound intensity of the wave. This effect is minimal in comparison with other aspects of transmission loss, but it cannot be ignored in any proper evaluation of sonar performance.

The Bottom Boundary

The bottom boundary behaves in much the same manner as the surface boundary. There are losses from scattering because of uneven terrain features, but there are also absorption losses because of bottom composition. A hard rock surface would have little effect, while a thick layer of silt or ooze would absorb a large part of any reflected wave front. Water depth



also influences bottom bounce propagation. In deep water, pressure and layer structure act to trap reflected sound waves and prevent them from returning to the surface. In shallow water, a strong sound wave may bounce back and forth between the surface and bottom boundaries several times before dissipating.

Attenuation

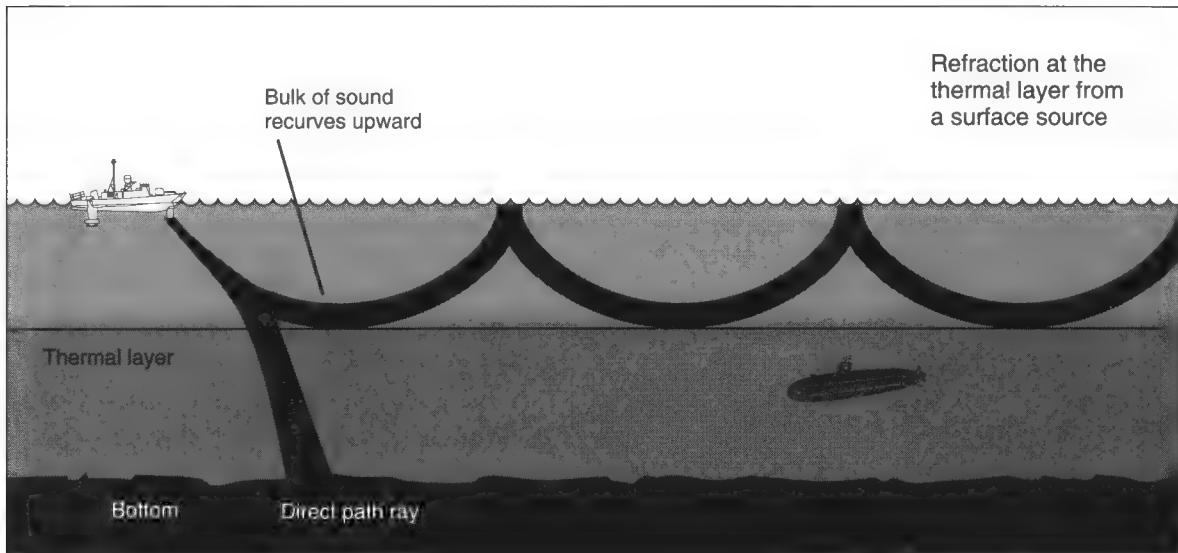
Attenuation is a composite measure of loss resulting from two factors, scattering and absorption. Some instances in which scattering and absorption come into play have been touched on briefly in the sections on surface and bottom boundaries. Additional scattering occurs because of the presence of other bodies in the medium, such as whales, schools of fish, or even thick plankton concentrations. Also, some absorption is inherent in the repeated pressure fluctuations that actually make up the wave front. The primary factor that determines the amount of absorption loss from this source is the frequency of the sound wave.

The waves generated by low-frequency sound sources, such as engine noise, experience less attenuation over time and distance than do high-frequency sound waves. This relationship is critical to tactical thought. Active sonars use concentrated pulses of high-frequency energy that travel to the target and are reflected back to the source in the form of a return, or *echo*. The use of high-frequency waves is required to achieve proper target definition. Definition is the sonar suite's ability to determine the difference between a solid echo, such as one that would be produced by the metallic hull of another submarine, and a mushy return from a school of fish.

Because high frequency is necessary for this purpose, active sonar transmissions will experience greater attenuation over the same distance. Because active sonar pulses must also return from the object of interest, the distance over which attenuation is a factor is doubled. If another submarine is simply listening with its sonar (this is called *passive operations*), it will hear your active transmissions at a minimum of twice the range at which you could receive an active return. Also, because low-frequency sound is less susceptible to attenuation, passive use of the sonar will pick up engine noises and other sounds that do not come into play with active sonar. What this means to you, the *Seawolf Commander*, is that *active detection ranges will always be shorter than passive detection ranges*.

Sound Velocity Distribution

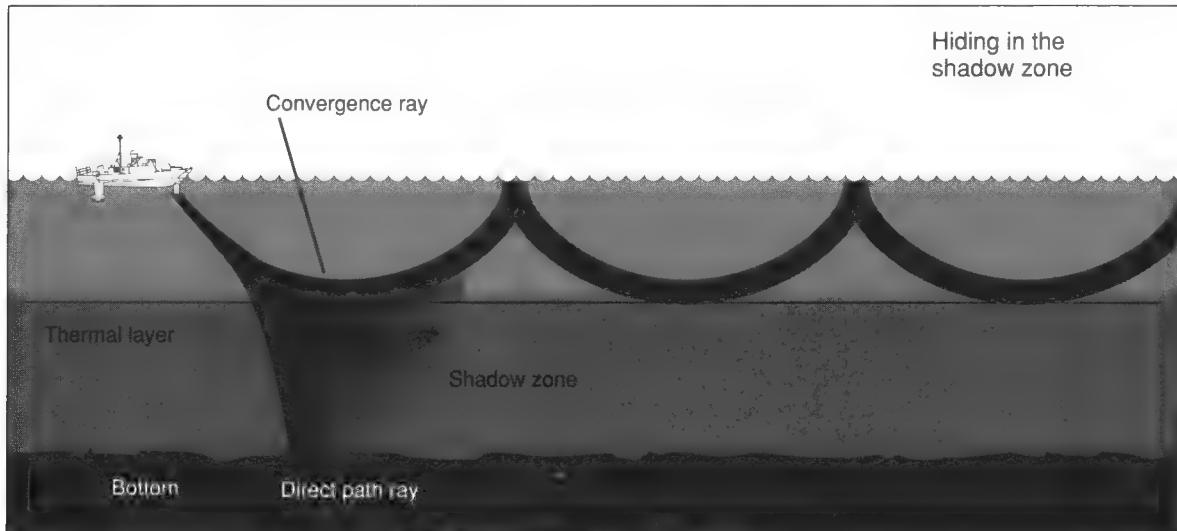
Sound waves are also influenced by the "artificial" boundaries created by thermal layers. The energy loss they experience when they come into contact with these layers is less significant than that from attenuation, but the temperature gradients have the *greatest single effect on the sound ray's*



direction of travel. When a sound wave hits the layer, a portion is reflected, but a much greater portion is refracted, or bent. Again, the amount of refraction depends on the angle of incidence when the ray strikes the thermal layer. At smaller angles, the sound will be bent downward, through the layer. At larger angles, the sound will re-curve upward, as shown in the illustration.

The portion of the sound wave that is refracted back toward the surface can, under the proper propagation conditions, be reflected off the surface and continue onward. When this occurs, the ray path is known as a *convergence zone* (CZ) and the area where it touches the surface is referred to as the *annulus*. The distances between convergence zones vary with water conditions, but are usually between 20 and 30 miles. Under optimum conditions, three CZs are possible, extending detection ranges out to 90 miles. Please note, however, that CZ contacts are not constant contacts like those displayed on a radar screen. They are present only while you are passing through the annulus of the CZ. To maintain a CZ contact, it would be necessary to match course and speed to keep it within the annulus.

The portion of the ray that is bent downward through the layer is referred to as the *direct path ray*. Direct path contacts are always short-range contacts, on the order of 4,000 to 8,000 yards. If you consult the weapons section of Chapter 2, you will see that such contacts are well within the window of engagement.



When a surface ship is conducting active sonar operations to locate you, it has a blind spot, between the direct path ray and the convergence ray, that you can use to your advantage. This blind spot is known as the *shadow zone*. To remain within this zone, you should stay more than 8,000 yards from the ship that is prosecuting you, at a depth of 200 feet below the layer. Thus if layer depth is 150 feet, as in the illustration, your *best depth* would be 350 feet.

When the water is deep enough to permit several thermal layers to coexist, the conditions are right for the formation of a *sound channel*. When a layer of warm water is bounded at its top and bottom by colder water, any sound emitted within that layer tends to be trapped between the two boundaries. The sound channel acts as a conduit for the radiated noise, allowing greater propagation within the channel, but also precluding detection of noise sources outside the channel.



TYPES OF NOISE

Sound, or noise, may be divided into two categories: *broadband* and *narrowband*. Each of these terms refers to bandwidth, the portion of the total spectrum of sound frequencies that is contained in the signal. Broadband

noise contains many frequencies; narrowband, a distinct few. The BSY-2 (pronounced *busy-two*) sonar suite aboard the *Seawolf* is capable of processing both types of noise, but the tactical information that may be gathered from each is different.

Broadband Noise

Broadband noise sources include *flow noise*, generated by water moving past the hull, propeller noise, and *cavitation*. Cavitation is a high-speed condition in which a low-pressure area forms on the trailing edge of each propeller blade. Air bubbles collect in these areas until their volume becomes sufficient for them to be thrown off into the propeller's wake. When this occurs, the bubbles collapse in the higher-pressure water. The sound that they make in this process is very distinct, similar to the sizzling sound of a steak on a grill. When this sound is present, the contact is known to be operating at more than 20 knots.

Without cavitation, some indication of speed may also be gained by timing the revolutions of the propeller, or the blade rate, of the contact. As Commander, you need not be concerned with the details of this process; you have far more important things to do. Rest assured that your crew is fully trained to perform this function.

Broadband noise generated by ships and submarines also tends to be of lower frequency than narrowband noise. From our discussion of attenuation, we know this means that broadband noise tends to travel farther than narrow band noise before dissipating. Therefore, the tactical implications of this knowledge are as follows: *The initial source of detection will be a broadband contact and, from that contact, the speed of the target can be determined.*

Narrowband Noise

Narrowband noise consists of discrete tonals and their harmonics (i.e., multiples of the base frequency) that are produced by the operation of machinery. For example, every ship or submarine requires electricity to operate. The source of this electricity is a generator that operates at the most common frequency used in the nation where it was constructed. You possess a distinct advantage here. As you know, the U.S. operates electrical equipment at a base frequency of 60 hertz (Hz), while almost all of the

rest of the world uses 50 Hz. Thus, in most instances, if you see frequency lines of 60, 120, 180, or 240 Hz, you can rest assured that the contact is friendly. (The fourth harmonic, 300 Hz, is ambiguous because it is a multiple of both base frequencies.)

These discrete tonals are not limited to generator operation, however, and different frequency lines, or *spikes*, will appear on the BSY-2 waterfall display for auxiliary machinery as well. The composite profile of these spikes is known as a *sound signature* and, because each class of ship or submarine has a different machinery configuration, each sound signature is as identifiable as a fingerprint. Moreover, in the real world, individual differences between ships within a class have made it possible to type a contact right down to its hull number without ever setting eyes on it. This fact is included for information purposes only. In *Seawolf*, this level of detail is unnecessary. Determination of the ship or submarine class is sufficient to meet all mission objectives.

An ability to process the information contained in narrowband noise is necessary in order to move from simply knowing something is there to knowing what that something is—in military terms, to move from detection of the contact to *classification* of the contact. Classification is critical because Rules of Engagement (ROE) forbid you to fire on a contact that has not been classified. Aboard *the Seawolf*, there are two methods of performing this task. You may allow the highly trained sonar technicians to classify each new contact, a method that is 100 percent accurate but is also time-consuming, or you may undertake the task yourself. Chapter 4 contains a complete set of details for accomplishing this command function.

Ambient Noise

Ambient noise is a combination of broadband and narrowband noise produced by biological sources, wind, ice floes, tidal action, and other phenomena that occur naturally in the environment. The level of ambient noise is important to passive sonar operations because it forms the background against which all other sound signatures must be picked out. The higher the ambient noise, the stronger the sound source must be to be detected. Ambient noise is highest in shallow water near the ocean boundaries. Therefore, the tactical significance of ambient noise is this: *All other factors considered, when you are operating in shallow water, passive detection ranges will be much shorter.*

Transient Noise

Transient noises are those that create a brief, but recognizable, burst of sound that discloses tactically important information. Examples include the loading and flooding of torpedo tubes, the blowing of emergency ballast tanks, even the creaking of a pressure hull that is operating near maximum crush depth. While in command of the *Seawolf*, you must remain alert to these signals from your enemy, and conscious of your own actions in this area as well.

Self Noise

Self noise is composed of broadband and narrowband noise generated by your own actions. Aside from the obvious effects of high levels of self noise, such as providing information to the enemy, self noise is even more significant in raising the *threshold of detection*. Self noise acts in conjunction with ambient noise to raise the base sound level; all other signals must be above this level to be detectable. What this means is, when the *Seawolf* or any other platform is traveling at speeds above 20 knots, the flow noise of water passing over the sonar dome is so great as to preclude most passive detections. In other words, *at high speeds, you are flying blind*.

DETECTION VS. COUNTER-DETECTION



Now that you have taken this knowledge on board, the next step is to examine the application of that knowledge in some of the tactical situations you will encounter throughout your tour of duty. This discussion is not intended to be comprehensive, since in the next three chapters you will learn other tactical considerations that transcend these generic examples. Rather, these lessons are best used as the foundation of a body of knowledge that you will build on throughout this work, knowledge that is essential to survival in a war at sea. (*Note:* The surface ships used in the following examples are warships employing modern hull-silencing techniques. Merchant ships do not enjoy such luxuries, so these platforms are easily detected at much longer ranges than those depicted in the examples.)

Ship Vs. Sub: Low-Speed Passive Ops

A surface ship is operating at a slow search speed of 5 to 10 knots. The *Seawolf* is cruising at a scant 4 knots, towing a passive sonar array. Both platforms are within the isothermal surface boundary, so the propagation paths of their radiated noise will be the same. Further, neither platform is inhibited by self noise levels that would preclude detection of the other.

With all other conditions equal, the *Seawolf*'s minimal sound signature and highly sensitive BSY-2 sonar suite should allow you to detect the surface ship at three to five times the range at which it will be able to counter-detect you. This affords you the luxury of a casual approach and a deliberate attack, the result of which should be one less *skimmer* (the name submariners give to surface ships).

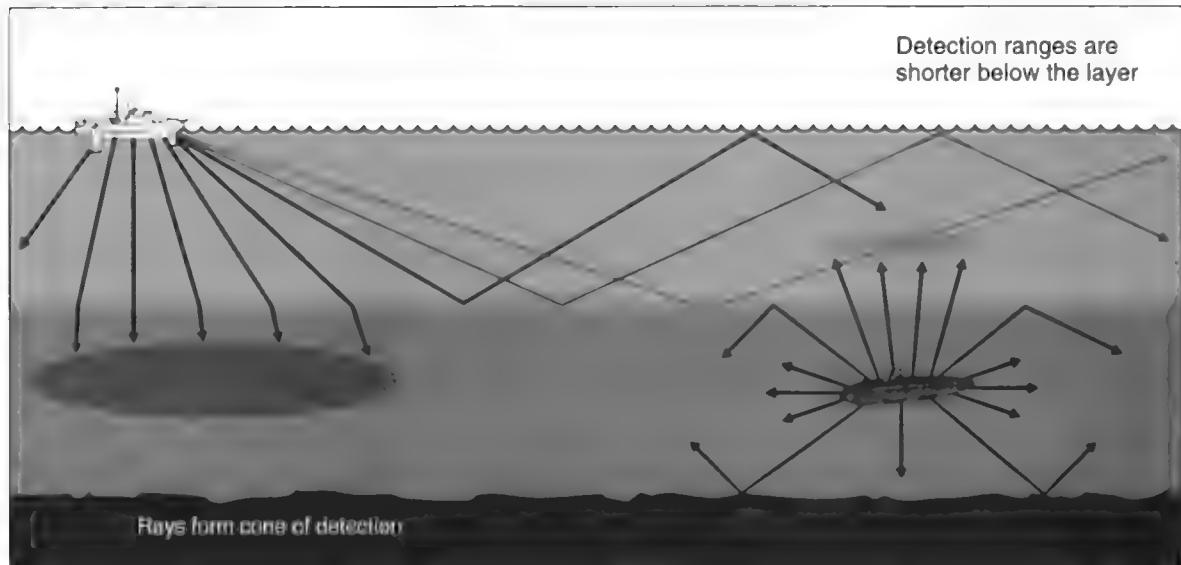
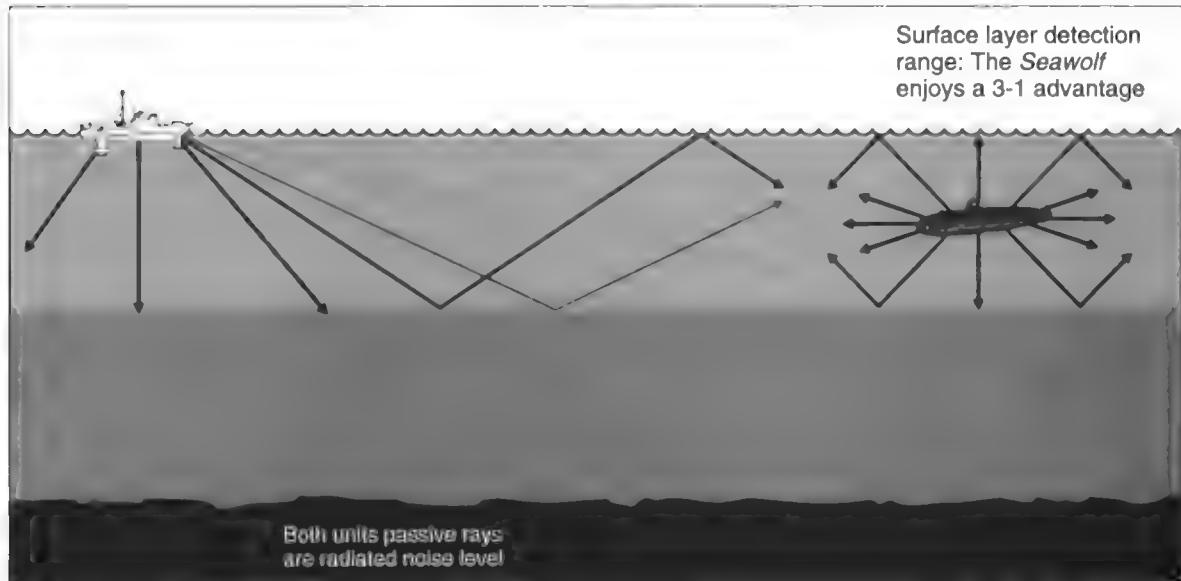
Retaining the same initial configuration, if the ship were transiting at high speed, its self noise would preclude passive detection of the *Seawolf* at any range, even from right on top of it. Likewise, if the *Seawolf* were transiting at speeds of more than 20 knots and the surface ship remained at low speed, it would be easily detected at three to five times the range at which it *might* counter-detect the ship.

Ship Vs. Sub: Passive Ops Below the Layer

In this situation, there is a single thermal layer at 200 feet. If the *Seawolf* is cruising beneath the layer at 400 feet, or best depth, the detection and counter-detection parameters change drastically. If both platforms remained at low speed, say 4 to 8 knots, most of their radiated sound would be trapped on their respective sides of the layer. Therefore, only those sound rays that were emitted directly at the layer would penetrate, creating a narrow cone of noise. This cone could be detected by the opposing unit only at a short distance. Therefore, detection and counter-detection ranges in this situation would be extremely short. The *Seawolf* would still possess an advantage, but a hastily fired shot would be necessary to put the ship on the defensive.

As the speed of either platform increases, the ability of each to detect the other decreases, and their counter-detection ranges increase, though never to the range that is experienced when both platforms are in the same layer.

As you might expect, you could substitute an enemy submarine for the ship used in each of the preceding two examples without altering the general conclusions we have drawn. Because enemy submarines are quieter



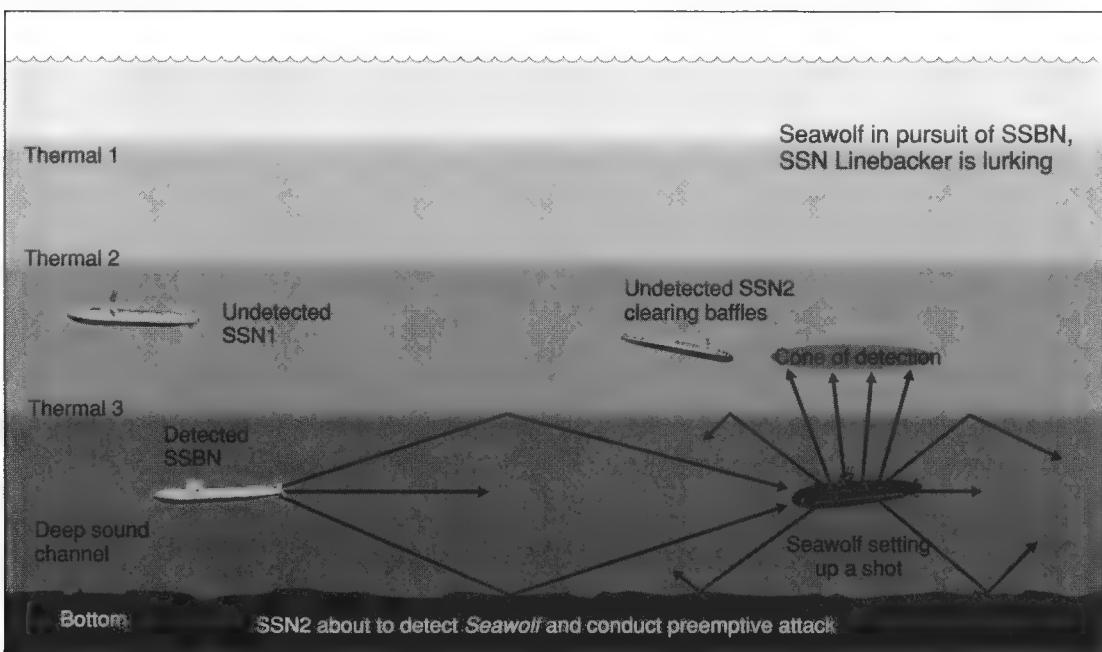
than their surface counterparts, you should expect some reduction in the initial detection range. As always, this varies with speed, but as a general rule of thumb you can expect 25 percent shorter ranges against SSNs (attack submarines) and 40 to 50 percent shorter ranges against SSBNs (ballistic missile submarines).

Multiple-Layer Passive Ops

The most frequent condition you will encounter is that of multiple thermal layers; these create a complicated sound profile with more than one sound channel. Surface ships encountered in this environment would still be subject to the conditions presented in the preceding examples. Submarines, however, are in their environment of choice. If alerted to the *Seawolf's* presence, enemy submarines may climb and dive among the various layers, forcing the *Seawolf* to try to stay in the same layer with them. If you cannot second-guess these adversaries, they will appear and disappear on your contact display like ghosts, until they are able to slip away altogether—or sneak up on you.

Soviet SSBNs almost never operate independently. They will have one or more SSNs lurking close by to protect them from the *Seawolf*. When multiple-layer conditions exist, these SSNs are typically in one layer, the SSBN in another. Periodically they will move in front of and behind their charge, changing layers and circling like birds of prey. They are constantly aware of their *baffles* (the baffle is the blind spot directly astern) and, since they have the luxury of multiple platforms, one will turn to check this area frequently.

Seawolf in pursuit of
SSBN, SSN Line-
backer is lurking



When such a situation is encountered, the *Seawolf* should try to stay in the same layer as the suspected SSN until it is identified, but as far away from the group as is possible while still maintaining contact. When the target of interest has been classified, fire two Sea Lance missiles (see Chapter 4 for more details) and clear the area.

Surface Ships Conducting Active Sonar Ops

Detection of enemy ships is not an issue when they are using active sonar. The power levels generated by their transducers are so high that the water around the sonar dome literally boils with each transmission. Under the proper water conditions, active sonar transmissions can be heard more than 100 miles from their point of origin. In all of the scenarios you will encounter while commanding the *Seawolf*, all enemies that employ active sonar will immediately be detected, if not classified.

Your objective, therefore, is to avoid counter-detection. In shallow water, where bottom-bounce conditions prevail, this is very difficult. You should engage active platforms as soon as they come within your weapon's envelope, even if this means sacrificing the element of surprise.

In deeper water, use the shadow zone to your advantage. Go to best depth and stay out of the enemy's direct path rays while setting up your attack. Resist the temptation to go active with your own sonar at all costs. You gain no tactical advantage by doing so, and afford the enemy immediate targeting data.

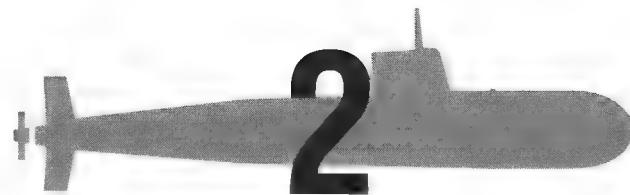
SUMMARY



The prosecution of surface shipping, both merchant and combatant, is not difficult if you remain aware of your environment and use it to your advantage. Hunting enemy submarines is always much more challenging, but you have several means of stacking the odds in your favor. Their commanders operate within the same environment as you do. They are aware of the impact of boundary layers and sound channels, and will also be trying to use them to their advantage. You must place yourself in their position and determine their best course of action, then devise your own plan to counter that action. In this chapter, you have been armed with the necessary tools to correctly anticipate their decisions and maneuver the *Seawolf* into firing position. In the next chapter, you will become familiar with the *Seawolf* herself, so that these opportunities will not be wasted.



The SSN-21 *Seawolf* hull, under construction at the Electric Boat Shipyard in Groton, CT. Successful captains will learn their boat inside and out. It's always best to start with the basics.
U.S. Naval Institute Archives



Know Your Boat

WELCOME ABOARD, CAPTAIN!

Attention on deck! Good morning, Captain. The crew of the *Seawolf* would like to welcome you aboard the fleet's finest attack boat. I know that you have commanded Los Angeles 688 boats in the past, but I think you'll find that the *Seawolf* outstrips those old beer cans in every department, begging the Captain's pardon. I mean no disrespect to your prior commands, sir, I just wanted to convey from the start how much I think you will enjoy being Skipper of the *Seawolf*.

My name is Ed Dille. I'll be your Executive Officer for this tour of duty. I know that it's customary for an arriving CO to have a couple of days to wander about before the formal presentations begin, but I'm afraid the operations schedule we received from COMSUBLANT has forced us to dispense with tradition in this case. We have a lot of work ahead of us, Captain, and probably a lot of action as well! Therefore, I've taken the liberty of preparing a tour of the boat today. This should give you enough familiarity with the basic command



Figure 2-1 The Stations menu. This is the top menu of the Seawolf Command Interface.

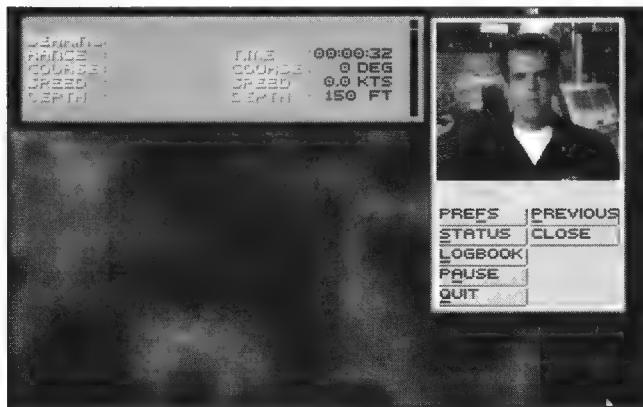


Figure 2-2 The Conning menu. Select (C)onn from the Stations Command menu or [F1].

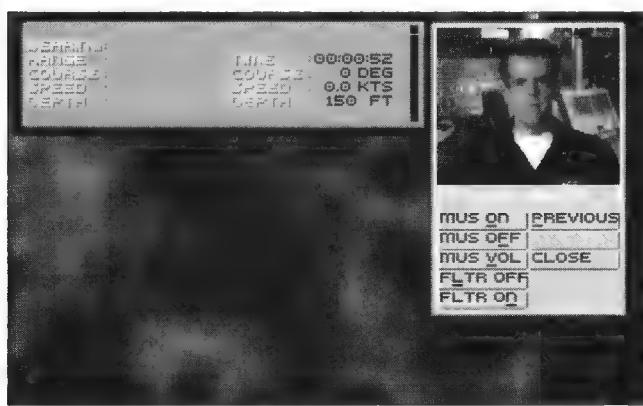


Figure 2-3 From the Conn, you can select your play preferences.

structure of the boat to get things rolling, and the crew will be happy to fine-tune things to the way you like them when we get under way in the morning for shake-down cruise. Now, if you would like to give your gear to the Chief here, he'll see that it gets stowed in your cabin while we get started.

Man Your Stations

Captain, from your command chair, you can access every major functional area of the boat. You will begin each mission at this menu, and will pass through this menu as you move from one area to the next to issue your orders. All the command menus except Stations have a (P)revious button, which will return you to the next highest menu and, eventually, to the Stations menu itself. Because these other menus are where the rubber really meets the road, it is important that each of them be examined in more detail.

Taking the Conn

The Conning Command menu allows you to access several subareas, which—on the surface, anyway—are not directly related to one another. Think of this menu as a kind of catchall for those functions that did not fall easily into one of the other categories. The first option, (P)refs, allows you to set the volume of the music, turn it on and off, filter messages, and so on—controlling the esthetics of the model, if you will.

The next option, (S)tatus Report, will generate an onscreen report of the *Seawolf*'s current inventory of weapons and special devices, such as cameras and decoys, as shown in Figure 2-4.

The other function that you will access frequently, and at the end of every mission for certain, is the Captain's (L)og book. This subset of commands allows you to review your mission history, examine the current mission (at the end of the mission only), or check out the statistics for particular ship or submarine types.

The Ship Control Panel

From SCP you control and observe your submarine's motion through the water. You will find that you switch rapidly back and forth between this menu and the Weapons Command menu (hotkey = [F3]) while in the thick of a mission. Several submenus (no pun intended) may be accessed from the SCP.

Display Options

You can use a variety of cameras to see the view outside, and other sensors to see computer-generated maps and displays. If you select (T)op Down, you will see the des scrambled view from a Western geosynchronous spy satellite, essentially a giant telescope in an orbit that keeps it viewing the same area on the Earth's surface at all times. Although the *Seawolf* is invisible to the satellite while submerged, a computer-

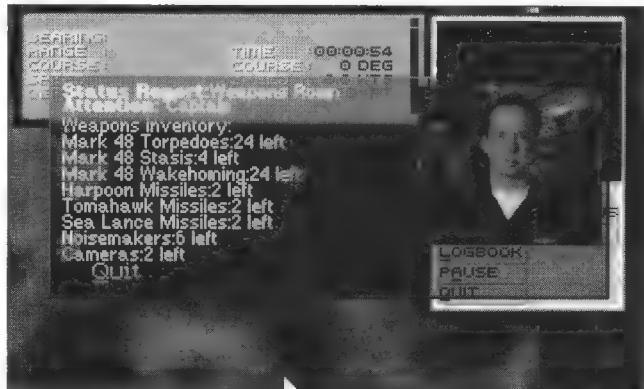


Figure 2-4 The Status Report is a good way to check out critical weapons levels during the heat of combat. It's always a good thing to know if that next Mk 48 shot will be your last.

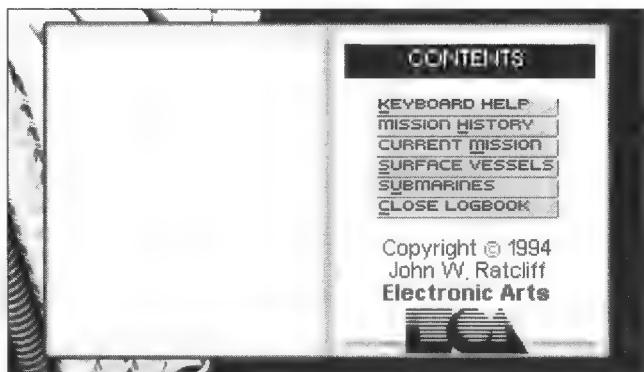


Figure 2-5 The Captain's Logbook provides a record of your accomplishments as well as other critical data.

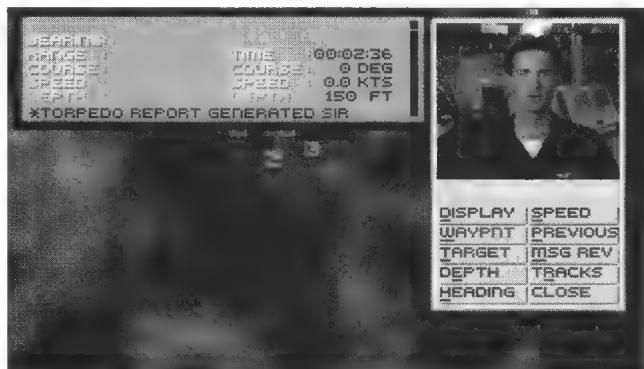


Figure 2-6 Select (S)CP from the Stations menu for the Ship Control Panel. SCP can also be selected from any menu or screen by pressing [F2].

**Figure 2-7**

Select (D)isplay, to view the *Seawolf*'s surroundings.

[Enter], but this display will not provide you with visual cues as to *Seawolf*'s depth.

Use the **[+]** and **[-]** keys to focus in to a close-up and out to a distant view of the map. When looking for enemy ships, focus out with the **[-]** key to see as much of the local ocean as possible. When in combat, use the **[+]** key to focus on the nearby action. If you are controlling the game with a mouse, use the **Esc** key to make the command menu disappear and you can zoom the map in and out with the right and left mouse buttons. If you select (H)i Res (hotkey = **F7**), the orbiting telescope focuses down to show a higher-resolution image of the same top-down scene. Again, the **[+]** and **[-]** keys or mouse buttons can zoom the image to the desired scale.

Selecting P(E)riscope allows you to look through the periscope if you are at the proper depth. If the *Seawolf* is not already at periscope depth, the crew asks if you want to rise to that depth, and the *Seawolf*'s computers present you with the Depth Command menu. This menu will be explained in detail later in this section. It is only mentioned now in case you are playing with the game as you read this. When the *Seawolf* reaches periscope depth, the periscope is automatically deployed, and you will see a full-screen view of the ocean surface outside. If another ship is visible, the crew warns you of a potential target or threat with a yellow flag line across the bottom of the screen. These targets may be viewed by rotating the periscope to port or starboard, using the left and right mouse keys respectively. To clear the command menu from the screen during this process, press **Esc** as before. Pressing **Esc** again will bring it back so you can issue more orders.

generated overlay shows the submarine's approximate position. The display also shows the coded locations of other vessels that have been detected by *Seawolf*.

Normally, the top-down display shows a colored contour depiction of the ocean depths in shades from blue to white. Darker colors are deeper; the white areas can be extremely shallow. Stay out of the latter or the *Seawolf* may run aground. Alternately, you can toggle to a grid pattern on a flat blue background by pressing

The *Seawolf* is very vulnerable at periscope depth. If enemies are nearby, they will see the *Seawolf*'s scope (if it remains up long enough) and will attack if they can. Further, it is impossible to be at periscope depth and not to have the periscope deployed. As such, if you want to enjoy some of the fine visuals of torpedoes or missiles striking their targets, do so in the earlier scenarios, when the risk is lower. The periscope view remains on the screen until you select another display mode or submerge to any depth level below 25 feet.

Now, from the Display menu, try (3)D Map. The *Seawolf* is equipped with a side-scanning sonar. This shows a contour map of the ocean floor beneath *Seawolf*, as viewed from the submarine. A high-frequency sonar beam scans the ocean floor around the bow, port, and starboard of the submarine. This provides information that *Seawolf*'s computers use to generate an image of the terrain around the submarine. Oval shapes designate sonar contacts; the larger the oval, the closer it is to your sub. Rotate your view of the contour map using the **<** and **>** keys or the left and right mouse buttons.

By selecting (C)amera from the Display Command menu, you can view the surface of the ocean at the release position of any remote cameras you have deployed. *Seawolf* carries two of these cameras; they are deployed via the Weapons Command menu, the details of which will also be explored later in this section.

A black-and-white image from the floating camera should appear on your main display. The scene slowly pans as the camera rotates; you have no control over where this simple camera points. If you deploy more than one camera, the view automatically switches from camera to camera. It is never necessary to use these cameras while commanding the *Seawolf*, but you may find them useful in performing post attack targeting or battle damage assessment.

To explain further, when ships are damaged but not destroyed, they may be moving so slowly (or just drifting), that they cannot be located acoustically. Therefore, to target these units for a followup attack (i.e., finishing your cripples), it is necessary to acquire them visually. The remote camera is the only means of accomplishing this without coming to periscope depth and putting the *Seawolf* at risk.

The final option on the Display menu is (V)iew. When selected, this option brings up yet another submenu.

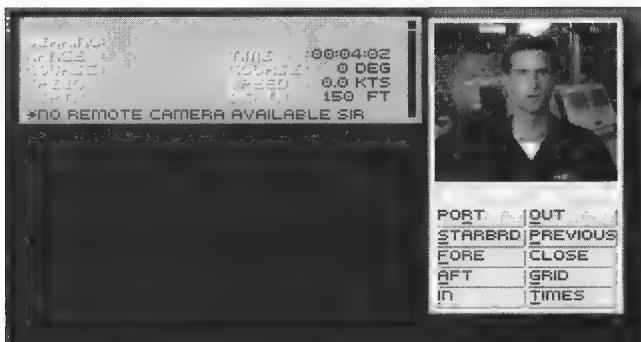


Figure 2-8 The View Command menu: a subset of commands from the SCP Display menu.

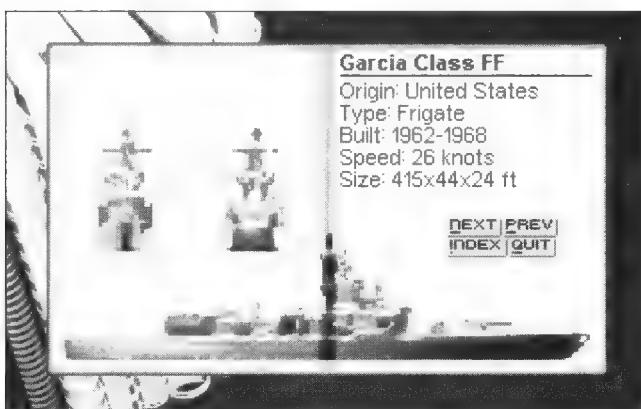


Figure 2-9 Garcia frigates are hopelessly outclassed in modern combat. Be glad you are not stationed aboard one of these puppies.

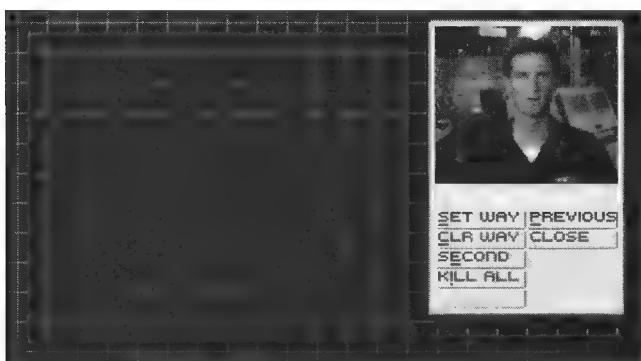


Figure 2-10 The Waypoint menu: a submenu of the Ship Control Panel.

The View Command Menu

This menu is another way of quickly checking the underwater view normally accessed through the 3-D map. If you select (P)ort from this menu, a camera view to the left of *Seawolf* appears on the main display. If you are deep under water, the view will be rather dark. Likewise, (S)tarboard presents a view to your right.

(F)ore looks toward *Seawolf*'s bow. (A)ft looks back toward the *Seawolf*'s engines. The (I)n and (O)ut commands zoom the telescopic image in and out. Type **P** to return to the Display Command menu.

The Weapons Display Option

This option has been included for those submarine skippers who thought the bomb camera shots during Operation Desert Storm were the greatest thing since sliced bread. To close the menu again, simply select it once more.

The Waypoint Command Menu

Submarines such as the *Seawolf* cannot be steered as you would a car. A huge, heavy, smooth-surfaced object like a submarine in water acts as if it were in a virtually frictionless environment. It has tremendous momentum. Once you are moving in a given direction, it is very difficult to change course or slow down. Therefore, submarine autopilots use *waypoints*.

A series of up to nine waypoints is determined; they are marked as numbered points on the top-down map. The submarine maneuvers in a relatively straight line from her current location to the first waypoint. Once there, she maneuvers to face her second waypoint; and so on, until the end destination is reached.

You may find that maneuvering via waypoints cramps your tactical style. No problem—take control of the ship directly via the heading and speed commands, which will be discussed shortly. If you do want to plot a course for *Seawolf* to follow, however, here is how it is done. Select (S)et Way (hotkey = [Ctrl][W]). The crew immediately asks you to select a waypoint, and your mouse's arrow icon appears. Determine where on the overhead satellite view you want the *Seawolf* to head, and place the mouse's icon on that point.

Click the mouse or press [Return] on your keyboard to set the point. The number 1 replaces the mouse icon, indicating that this is the first waypoint. The *Seawolf*'s computer will then bring up the Speed Command menu to allow you to program the speed at which the submarine will travel to the new destination. Use the same procedure to mark a second waypoint. The number 2 appears, but, since you have already selected a speed, the Speed Command menu does not. If you wish to change your speed, you can do that by using the (P)revious command to find the Speed menu and input a new setting. Up to nine waypoints may be set in this fashion.

Back at the Waypoint Command menu, you can select (C)lear to remove the latest (highest-numbered) waypoint. Selecting (C)lear again clears the previous waypoint, and so on. Each (C)lear command removes a waypoint closer to the *Seawolf*, until the earliest waypoint (number 1) is deleted. Alternately, you can select (K)ill to clear all the waypoints at once.

Choose S(E)cond in the Waypoint Command menu to mark a secondary waypoint, shown by an X on the map. Secondary waypoints are used to target weapons. Secondary waypoints act much like normal waypoints. When you select S(E)cond, the arrow mouse cursor appears. Place it over the point on the top-down map toward which you wish to fire a weapon. Click or press [Return].

A yellow flag line informs you that you have selected a secondary

waypoint. Now you can fire a weapon toward that point. Firing weapons at waypoints instead of targets may seem incongruous at first, but that is only because you are not yet familiar with all the capabilities of the Mk 48 torpedo. These will be explained in the discussion of the Weapons Command menu. For now, it is only necessary that you understand how to set a secondary waypoint.

Targeting

Targeting is a function of the SCP that does not pull up a submenu. Instead, when you select (T)arget (hotkey = **Ctrl T**), the crew will tell you whether a target is or is not visible to the *Seawolf's* sensors. If one is, and if the sonar crew has not identified it, it will appear as a grey icon on the top-down map. If the target symbol on the top-down map is colored, your sonar crew has identified it. Red targets are hostile, green targets are friendly, and yellow targets are neutral. Please note, however, that some scenarios will require you to engage neutral targets.

Selecting and identifying targets is very important. You cannot fire a weapon until you have selected, and then identified, a target. If one or more targets are visible on the overhead view when you select (T)arget, the arrow mouse cursor appears. Alternatively, type **Ctrl T** in the top-down map; again, the arrow mouse cursor appears. Place it over the target of your choice, then click or press **Return** on your keyboard. The crew informs you that the target has been selected.

As a safety feature, the target must also be identified. You do not want to be responsible for the deaths of fellow Navy personnel. If sonar has not identified a target (i.e., if the symbol on the top-down map is not colored) you must do so before you can fire a weapon. To accomplish this, press **Ctrl I** and a dialogue box will appear asking for the Target Code or T-Code. Enter a two-digit number to identify the target. This number may be a random number assigned by you, but that is risky. An unknown target may be a friendly vessel, or it may be a threat to you.

To positively identify a target, see the waterfall display in the Sonar Command menu. That display will allow you to analyze the specific sound signature of the contact of interest and compare it to the platform data found in Chapter 4. Once the match is made, you can input the correct target code, which ensures that you are not committing a grievous mistake by firing at the unit.

The Depth Command Menu

Selecting (H)old confirms that the *Seawolf* is holding its current depth with a yellow flag line across the bottom of the display. This command is useful when you have ordered the *Seawolf* to change depths and, during the process, a contact of interest has popped up on the top-down map. If you select (A)ttack, the *Seawolf* immediately begins to rise to a depth of 150 feet (46 meters), as shown in the depth display in the Ship's Status box. This is the best depth from which to attack surface vessels with missiles: *Seawolf* is hard to detect, but its missiles can reach the surface. Torpedoes can be launched from almost any depth. The crew will tell you when you have reached attack depth with a yellow flag line.

Selecting (U)p Therm (**Ctrl U**) causes the *Seawolf* to rise up to the nearest thermal layer. Keeping a thermal layer between the *Seawolf* and a potential aggressor makes it more difficult for the aggressor to detect the *Seawolf* with sonar, as explained in great detail in Chapter 1. Similarly, pressing the (D)own Therm button (hotkey = **Ctrl D**) causes the *Seawolf* to drop down one thermal layer.

To observe your surroundings, you need to rise to periscope depth. Select P(E)ri Dpt and the *Seawolf* rises to 25 feet (7.62 meters), as shown by the depth gauge. When that depth is reached, the main display automatically switches to the view seen through the periscope (hotkey = **F9**). To control the periscope view, hold down the **<** and **>** keys to rotate the view to port and starboard, respectively. Release the key to stop the periscope's rotation. Also, you may clear the command menu with **Esc** and use the mouse buttons to rotate the view.

Ordering the *Seawolf* to (S)urface starts an emergency rise toward the ocean's surface. This is not a casual maneuver. It is an irrevocable blow of all the ballast tanks, causing *Seawolf* to pop out of the water like a cork. It is designed as a last-ditch measure to save the crew, though not necessarily the boat, in the event of a dire emergency. You may suffer such emergencies as a result of battle damage.

Do not initiate a surface blow just because you think the situation may warrant it. If one is really needed, the program will do it for you automatically. The crew informs you when the surface is reached with a yellow flag line at the bottom of the screen. Once you are on the surface, if enemy ships are around, they will fire surface-to-surface missiles at you. Once these missiles hit, it's all over, brother!



Figure 2-11
The Depth Command Menu: Another subset of commands from the Ship Control Panel.

Selecting (C)rush sends *Seawolf* into a fast emergency dive toward 1,500 feet (457 meters). *Seawolf*'s crew and/or autopilot stop the vessel at the edge of safety and warn the Captain.

A test drop places the *Seawolf* at a test depth of 1,400 feet (427 meters), deep enough to stress the submarine's hull without undue risk. Test depth is a good depth to use for escape and evasion maneuvers, provided the waters are deep enough when these become necessary.

The Heading Command Menu



Figure 2-12 The Heading Command menu: a subset of commands from the SCP that control the direction of movement.

Selecting Auto (O)n turns on the *Seawolf*'s autopilot if a waypoint has been set. If the crew informs you that no waypoint exists, return to the Waypoint Command menu to set one. Once both a waypoint and a speed have been determined, the *Seawolf* will begin to rotate toward the waypoint. The *Seawolf*'s movements are visible in the overhead satellite view. They are also reflected in the course and speed displays in the Ship's Status box. To turn the autopilot off, select Auto O(F)f.

In combat, fast turns are essential. A fast 180-degree turn is executed by selecting (B)aaffles (hotkey = **[Ctrl][B]**). Baffles refer to screw noise and to the disturbance a submarine creates while moving through the water. Sonar cannot "see" well behind a submarine because of this noise. *Baffles* thus refers to the *Seawolf*'s blind spot, and you should never forget that you cannot see well behind your submarine. *Clearing your baffles* means making a fast 180-degree turn, so that you can see the blind spot.

As an alternative to navigating via waypoints, you can mark a heading on the overhead view. Choose (H)eading (hotkey = **[Ctrl][H]**), and the mouse's arrow icon appears. The crew asks you to select a heading with a yellow flag line at the bottom of your display. Move the icon to indicate the direction in which you want to go and click or press **[Return]**. Note that, when you click the mouse button, the distance of the icon from the *Seawolf* is irrelevant; only the direction of movement is registered. The *Seawolf* will then rotate to face the heading. Setting a speed (see the section immediately below) will cause the *Seawolf* to move toward the marked heading. Since you are manually controlling the *Seawolf*'s motion, if the autopilot is on, the *Seawolf*'s computers will automatically turn it off.

Here is another feature of manual headings that you will not find in the documentation that comes with the game. There will be times when

you want to move toward a destination, but do not want to proceed at one-quarter power (11.4 knots). The only way to get a speed increment lower than that setting is to come to “all stop,” then change the *Seawolf*’s heading. This will get the *Seawolf* moving in the noted direction at a speed of 3.5 knots, also known as *bare steerageway*. This is an optimum speed for using the towed array to find all your enemies, while remaining completely undetected in the process.

The Speed Menu

Choosing the *Seawolf*’s speed can be far more important than you might think. Generally, you should avoid high speeds. The faster you’re going, the more noise you are making. That noise might be heard by enemy sensors. Worse, the noise also hurts the *Seawolf*’s ability to listen. Submarines should walk softly and carry a big stick, which often means hiding at low or no speed and waiting for enemies to come to you.

Important: Note that the *Seawolf* keeps moving on the heading and speed you have set even when you are working on the other Command menus. As such, you must remain aware of the *Seawolf*’s status at all times. Forget your ship and eventually you will literally run into trouble.

Display Tracks

(T)racks is a toggle that lets you see where *Seawolf* has been by drawing a black line on the overhead view. The line indicates the path the *Seawolf* has followed (hotkey = [Ctrl][K]). This feature also shows the paths of other vessels and weapons. Select (T)racks a second time to turn this feature off.

This concludes the discussion of features accessible from the Ship Control Panel.

The Weapons Command Menu

The Weapons Command menu (hotkey = [F3]) is where much of any mission’s action takes place. Here you load, prepare, and fire weapons. This menu is likely to be the one you visit most frequently other than the Ship Control Panel, which will likely be your “base of operations.”

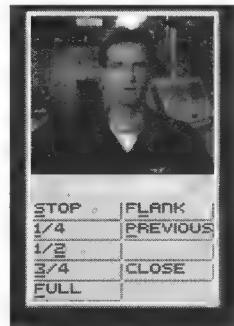


Figure 2-13 The Speed Menu: a subset of engine commands from the SCP.

Alternately, you can set the *Seawolf*’s speed by using hotkeys 0 through 5, that represent the same increments from Full Stop to Emergency Flank respectively.

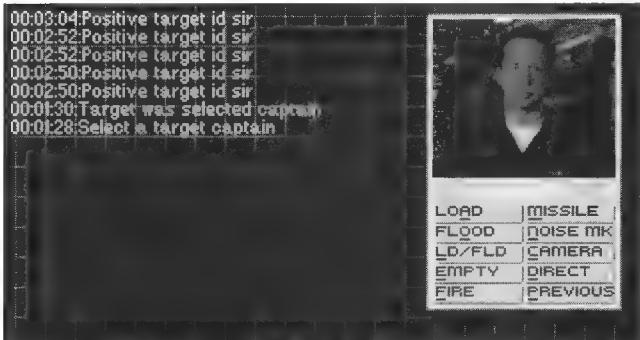


Figure 2-14 The Weapons Command menu: the nerve center for all of *Seawolf's* firepower.

To load a torpedo into a torpedo tube, select (L)oad. A dialogue box appears asking you to choose a type of torpedo. (L)ong Range torpedoes sacrifice speed for range. (H)igh Speed torpedoes are just the opposite. They are optimized for speed but have much shorter run times. (W)ake-homing torpedoes are suitable only for surface targets.

A wake homer contains a special pressure sensor in its seeker head that senses minute differences in the pressure of the surrounding water. When ships move through the water, their passage creates low-pressure areas that continue to exist for hours after the ship has passed. The greater the speed of the ship, the longer the pressure wake is active. When a wake homer passes into one of these low-pressure areas, it will turn to follow it, combing back and forth across the wake to that ensure the wake homer remains solidly within it. This process continues for many, many miles, until the torpedo either runs out of fuel or intercepts the aft end of the ship that made the wake to begin with.

(S)tasis torpedoes are the submarine's equivalent of some of the gadgets on James Bond's car, specifically the ones he used to throw off the bad guys that were chasing him. When you are evading and being pursued, you can drop one of these torpedoes into the *Seawolf's* wake. It will wait there for a couple of minutes, then activate, going into a passive acoustic search for any targets of interest. If it acquires one (perhaps even the *Seawolf* herself), it will go active and attempt to intercept the target. Because you have no control over these torpedoes once they are dropped, it is best not to be in the area when they activate, and not to be moving fast at that time either.

Once you have chosen a type of torpedo to load into a torpedo tube, the dialogue box disappears. Also, the crew may warn you with a yellow flag line at the bottom of your display if only a small number of the chosen torpedo type remains. Choose (C)ancel to return to the Weapons Command menu without selecting a torpedo.

Once a torpedo is loaded into its tube, you must flood the tube before you can fire the torpedo. To do this, select Fl(O)od. Choose a tube to flood by typing the indicated number or by clicking on the appropriate tube from the display that appears; the default is Tube #1. Only tubes that are

not already flooded that are available for use are shown, so you may see fewer than six torpedo tubes.

If you wish to flood more than one tube (after torpedoes have been loaded), select Fl(O)od again. Notice that the tube you have already flooded is no longer on the list of available tubes.

Type C to (C)ancel without flooding a torpedo tube and return to the Weapons Command menu.

From the Weapons menu, select (E)mpty to remove a torpedo from its tube. Choose a tube to unload by typing the indicated number or clicking on the display. Only tubes that were loaded with the (L)oad or L(D)/ Fld command can be emptied. When you have ordered a torpedo tube to be emptied, the *Seawolf*'s crew pumps the water out of that tube, removes the weapon, and notifies you with a yellow flag line across the bottom of your display.

If you emptied the tube, load it with a new weapon using the (L)oad and (F)lood commands or the L(D)/Fld command. Now you can select a tube to fire.

When you choose (F)ire, the crew will tell you that you first have to select a target, and that the chosen torpedo is armed. *To fire any weapon, you must have a target selected and identified*, or you must have a secondary waypoint marked on the overhead display and fire toward that. It is probably a good idea to select and identify a target before loading the torpedo! A torpedo cannot safely be left armed in its tube. If you do not fire a torpedo within a few minutes after it is loaded into its torpedo tube, the crew will empty the tube and inform you with a yellow flag line at the bottom of your display. You can issue the order to fire a torpedo before the tube is completely flooded, however, the torpedo will not actually be launched until the loading/flooding process is complete.

When you select (M)issile, you will be given the choice of firing either a Harpoon, Tomahawk, or a Sea Lance. Missiles are much easier to handle than torpedoes. Simply selecting a missile instructs the crew to fire it. But not so fast; you still have to find a target. Select and identify a target as described immediately above for torpedoes.

Unlike torpedoes, missiles cannot be fired from deep under water. We need to reach attack depth. (H)arpoon is an anti-ship weapon, usually used to strike a ship's hull at the waterline. A hole at the water line floods quickly and is almost impossible to repair. (T)omahawk is a terrain-following cruise missile that has several variants. In *Seawolf*, the only

type you will control is the Tomahawk anti-ship missile (TASM). This is used just like the Harpoon, but since this missile has more explosive firepower in its warhead, it should be used for the larger target types (such as the Kiev, Kirov, and Moskva).

(S)ea Lance is a rocket-thrown Mk 50 torpedo. It is released into the water like any other torpedo (*Seawolf* does not require you to use the normal tube functions for this) and rises toward the surface. At a preset depth, the rocket booster kicks in and launches the entire package out of the water in the direction of the designated target. The booster and torpedo separate upon re-entry and the torpedo begins its circular search pattern. When a target is acquired, the torpedo increases speed and attempts an intercept.

When you select (N)oise Maker (hotkey = **Ctrl****N**), one of the six decoys carried will be released and the crew will inform you of that fact. Noisemakers do just that, flooding the entire sound spectrum in their immediate vicinity and speeding away from their point of release at 62.5 knots. The intent is to sound much more attractive than the *Seawolf* to the seeker heads on inbound torpedoes, hopefully drawing them on a wild goose chase.

One thing is important for you to understand, however. Noisemakers are active only for a short period of time. Once they run out of fuel, the torpedoes that were decoyed by them will attempt to reacquire a new target. If the *Seawolf* is still in the same thermal layer and close enough to be acquired, she may have to run from the same torpedo twice.

Selecting (C)amera from the Weapons menu orders the crew to release a remote camera, the details of which have been discussed in the section on the SCP View menu. The final selection on the Weapons Command menu is (D)irect, which calls up another submenu.

Figure 2-15
(D)irect is used to issue commands to a torpedo that is still under wire guidance.



Taking Direct Control of Weapons

If you have not already done so, you must first select a torpedo to direct. This is done by targeting the torpedo with the SCP (T)arget function, just as you would any other ship or submarine. Upon

returning to the Direct menu, you can issue several types of orders to the torpedo. The first one, Detonate, can come in very handy if one of your shots decides that the *Seawolf* is the best target in town. Naturally, you want to stop that fish right away, so you order a command detonation. Please note, however, that once the guidance cable has been severed, you will be unable to issue this command, or any other command, to the torpedo.

The other commands are generally used with torpedoes that have been fired at waypoints instead of targets, though they can be used with any torpedo that is still under guidance. Secondary waypoints are a great way to get long-range torpedoes into close proximity to their targets before the target is alerted. For example, if you target a ship that is 6 miles away and fire torpedoes at her, she will begin to go evasive the instant she detects those inbound torpedoes. This can mean a long, drawn-out tail-chase situation. Instead, set a secondary waypoint about 1 mile to 1½ mile in front of the ship (or submarine) in the direction in which she is heading. Fire your weapons at that point and they will swim out there quietly and be undetectable. At any point during that swim, or after they reach the waypoint, you can issue several commands.

Surface Search orders the torpedo to begin a passive sonar sweep, looking for surface targets. Sub search performs the same function for submerged targets. Go local tells the torpedo to turn on its active sonar seeker head and begin trying to acquire a target in that manner. Match tells the torpedo to match its target profile with the one you currently have selected aboard the *Seawolf*.

Finally, Surface tells the torpedo to go to the surface immediately and not to dive down again. This is a manner of breaking a friendly torpedo off the *Seawolf* without having to destroy it. This would be more useful than the command detonation if there were enemy ships in the area and the torpedo still had some chance to be useful.

If you use the various direct targeting methods, enemies at a distance will not become aware of any danger until the torpedo is close aboard, thereby minimizing their reaction time. Further, because the *Seawolf* used an offset waypoint as an intermediary, the direction from which the torpedoes are coming will not reveal a true bearing to the *Seawolf*.

This is especially important in later missions, when some enemies will fire torpedoes in the direction from which inbound shots are coming. With any secondary waypoint that is not placed in a direct line between

the *Seawolf* and the target, this virtually guarantees that the enemy's counter-battery fire will miss the mark, and may even hit some of his own brothers in arms.

The Sonar Command Menu

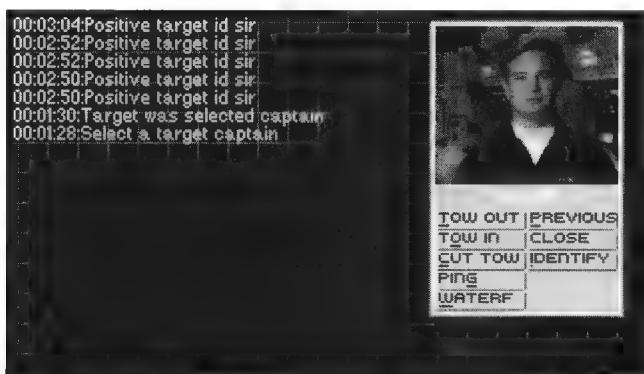


Figure 2-16 The Sonar Command menu: the eyes of the *Seawolf*.

Sonar is analogous to radar or lidar, using sound instead of microwaves or laser light. As explained in Chapter 1, sonar can be either active or passive. If the active mode is selected—and it rarely should be—sharp pings of sound are emitted from the *Seawolf*. They bounce off the submarines surroundings and are reflected back toward the *Seawolf*'s sensors. When the pings of sound bounce off an object, they are affected by that object. The

Seawolf's computers can derive an amazing amount of information from this seemingly simple process. Usually, the sonar crew can distinguish ships and submarines from other objects by the quality of the return.

Seawolf's passive sensors listen to the sounds an enemy makes and can use these sounds, as displayed on the Waterfall console (see below), to identify the particular target type. The *Seawolf* also makes noise, but at very slow speeds (3.5 knots or below) she is completely invisible to the enemy's passive sonars. The greater a given platform's speed, the greater the chance that she will be detected by other units in the game.

A towed array is a long cable with a series of microphones mounted along its length. It may be as much as 2,000 feet (610 meters, or almost two thirds of a kilometer) long. Contacts from a towed array are triangulated against those from the *Seawolf*'s sonar dome to provide a measure of the enemy's range without having to use active sonar. As a rule, you will use your towed array almost all the time. The only potentially negative aspect of having it deployed is that it reduces the *Seawolf*'s top speed to half power (22.8 knots). The only time you might want to go faster than this is when inbound torpedoes are on their way, so whenever you get that message, begin retrieving the towed array immediately.

If the array gets irretrievably snagged on, say, an enemy ship, or if

you need to achieve top speed, you will need to select (C)ut Tow. A dialog box asks if you are sure. Be sure, because you have only one towed array. When it's gone, your passive sonar ability will be greatly reduced for the remainder of that mission.

The Waterfall Display

When you start a mission, this is likely to be one of the first places you will want to go. Like the overhead map, the waterfall display can give you an idea of where everything is—but from the point of view of the sonar. It shows you a graphic representation of all the sound sources in the surrounding area, including biological targets such as whales and dolphins as well as the more interesting ones you are searching for. It tells you whether the objects sonar has found are on the surface or submerged, and whether they are moving fast and are likely to be incoming weapons. The waterfall display also allows you to manually identify an object as a certain class of ship or submarine.

The status box in the lower right corner of the display contains the heading, which is the compass direction in which your ship is headed relative to the North Pole. For example, if you are on a heading of 000, this is due north; 090 is due east, and so on up to 359, which is one degree to the left of due north again.

A *bearing* is a direction relative to the ship itself, expressed as the number of degrees around a circle that begins directly ahead of your submarine. For instance, as you stand inside the conning tower facing the front of your ship, a bearing of 90 degrees is directly to your right, or starboard. A bearing of 180 degrees is directly behind your ship. To put these two concepts together, if you are on a course of 090 (due East) and a target bears 90 degrees relative, its true bearing would be 180, or due south.

The panels to the upper right may show a quickly moving wave pattern. This simply depicts the noise intensity. The intensity of the color and movement of that wave represents the cumulative source level of one or

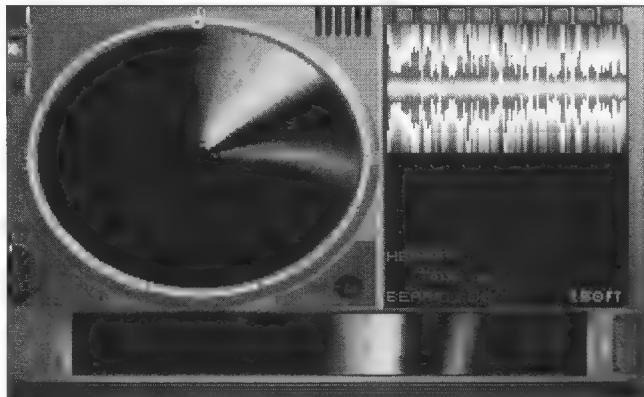


Figure 2-17 The Waterfall display can provide a wealth of critical tactical data.

more contacts. The circular display to the left of the sonar panel can be confusing. Regardless of what the manual states, the *Seawolf* is always at the center of this display. The green dot on the rim of the display represents the direction in which the *Seawolf* is actually headed, or, if she is not moving, the direction in which she is pointed. The red dot over the green dot allows you to select a new heading, or to listen to different sound signals that are coming in around the scope. Simply press and hold down the right or left mouse button to move the red dot to the signal you want to listen too.

You will see a “wash” of color at the edge of this display, slowly advancing toward its center. This represents a sonar contact. Its size and intensity represent the size and intensity of the corresponding contact’s radiated noise. Its movement toward the center of the display represents the time since it was first detected. The closer it is to the center, the longer it has been a contact.

The color of the contact can tell you something about the nature of the return. If the color is green, the contact is a surface contact; blue means a submerged contact; red means a torpedo. However, the mere fact that you see a blue contact does not mean you have found a deep-running submarine to kill. You may have found a school of fish, or anything else that generates sound. A green contact is likely to be a ship, but you don’t know whether it’s an enemy or a friend. You need to know that before you can fire.

Use the arrow keys, or the left and right buttons on your mouse, to move the red dot that represents your desired direction to the left and right of the circular display. The *Seawolf*’s sonar is in her bow, so rotating the *Seawolf* allows you to point the sonar at the target, getting the best return signal. Once you are on the contact of interest, you can get the best signal strength by turning to the heading that will point the bow dead on the target. This can be done without leaving the waterfall display by hitting **[Ctrl][H]**. As the *Seawolf* rotates, the red and green dots recombine, and rotate to show where the submarine is pointing. As the *Seawolf*’s heading approaches the direction of a contact, you should see increased activity in the noise detector on the upper right panel.

When the *Seawolf* is pointed toward the target, you may see a pattern of bars displayed on the middle right screen. Compare that pattern with your guide to the signal analyzer signatures in Chapter 4 to identify the contact as a specific kind of ship or submarine.

Centered at the bottom of the Waterfall screen is another display. This display represents a 360-degree sonar view around the *Seawolf*. The *Seawolf* is pointed toward the middle of this display, and contacts are shown relative to that point. If there is a contact on the circular display to the upper left (say, the 10 o'clock position), you should be able to match that with a contact slightly to the left of center on the bottom display.

If you have trouble understanding this concept, think of the circular display as half an orange. Cut a radius from the center to the edge and peel the orange. Lay the peel out flat and you have the linear display at the bottom of the screen.

You can also use the circular screen to determine the track history of a contact—what it was doing while you were doing something else. If the outer edge of the sound source is bending clockwise around the waterfall display that contact is said to have a right bearing drift. This means that, if neither the *Seawolf* nor the target changes course, she will eventually drift far enough to starboard to slip into the baffles. Counterclockwise motion means she is drifting left, or to port.

The rate of bearing drift can give you some idea of a target's range as well. If it is very slow, it is a likely indicator that she is either far away or on a course very closely paralleling that of the *Seawolf*. If it is very fast, it usually means that the target is very close aboard. It is nothing more than another way of looking at relative motion, which is a concept that anyone who has ever driven a car can understand.

The Radio Command Menu

One of the nice features of *Seawolf*, the game, is that it allows two players to connect via modem and play a mission cooperatively, or to ignore the other platforms and just go head-to-head. The (R)adio Command menu allows you to communicate with other players, either to coordinate your actions during a joint mission or to negotiate with the enemy.

Communication may be established with another combatant if both of you are using Hayes-compatible modems with a minimum of 1,200 baud or one null modem cable. In both instances, one commander is the “originator” and the other is the “answerer.” The originator sets up communications in the Radio Command menu and initiates the call. While competing with another commander over the modem you cannot pause or compress



Figure 2-18 The Radio Command menu (hotkey = **[F5]**). Rarely used for solitaire play, but critical for two-player missions.

the mission. For specific details of the way to establish the link, consult the original documentation that came with the game.

Once connected, the *Seawolf*'s computer gives you a blank CHAT message screen with a cursor (hotkey = **[Ctrl][C]**). Type your message. The text will word-wrap, but it will not scroll beyond the bottom of the screen. The longer a message, the more likely an enemy unit or ELINT satellite is to pick it up. Keep it short, concise, and clear so that the intended recipient will not misinterpret it. Lost or misinterpreted messages are a common cause of friendly deaths in wartime.

When you are happy with your message, press **[Return]** or **[Esc]**. The *Seawolf*'s computers check the message for language they think might be objectionable to the Federal Communications Commission, then a dialogue box appears asking if your CHAT message is complete. You may then revise your message, cancel, or send it.

You can also select Sa(T)el from the Radio Command menu. Here you can read wire news reports relevant to the mission at hand. Select (N)ext to page through the wire reports. If you select (V)oice from the Radio Command menu, a pop-up screen appears, asking you to select a recorded sound message to send to another player. Listen to these options if you have not done so; they are quite enjoyable.

Also from the Radio Command menu, you can page through all of the messages that have been sent to you throughout the mission from the *Seawolf*, from the submarine's crew, or from other combatants.

Use (F)irst, (L)ast, (N)ext Msg, and P(R)v Msg to page through the messages sent or received. A yellow flag line at the bottom of your display tells you what message is currently selected.

Select (O)rders to review your orders for the current mission.

BREAK FOR CHOW



Well, that's about it for the tour, Captain! I'll be happy to answer any questions you might have. None? Good, that means I've been earning my paycheck. What say you and I break off to the wardroom for a little chow? Then we'll pick up things in the afternoon with a briefing on missions and tactics. Sound good? Great, see you there!



If you want to be in the business of dealing out death
and destruction, you must first develop your tactics.
Remember, it's always better to give than receive.
U.S. Naval Institute Archives



Know Your Mission and Tactics

Your government has placed billions of dollars in weaponry at your fingertips, but it expects to retain control over the expenditure of these assets. To ensure that control, clear mission statements are promulgated by the national command authority through the subsurface chain of command until they eventually reach you, the on-scene commander. Through the provisions of the Uniform Code of Military Justice (UCMJ), you are held accountable for the execution of these orders.

To accomplish your goals, you must first develop the ability to recognize the objectives of each tasking, both stated and implied. These must be distilled into a concise mission statement. Next, you must be able to move from the mission statement to the formulation of a battle plan that anticipates all the possible contingencies for a given situation. Finally, you must be able to execute that plan without violating any of the restrictions imposed in the orders or otherwise committing acts of bad judgment which would not stand up under the close scrutiny of your superiors.

In the execution of a battle plan, you must remain focused on the mission objectives. The naval officer's credo is to think first of the mission, then of the mission, and when all else fails, to revert back to the mission. This does not imply that you must pursue the objective with the self-sacrificing tenacity of the kamikaze. Your first responsibility is always to your crew. The safety of the ship must be factored into every step of the process. This does not mean that you can simply choose to ignore a mission if it appears too dangerous. You must muster all of your professional skill to develop a battle plan to achieve the mission *and* come out the other side.

The *Seawolf* is a precious commodity, whose worth to the entire campaign is immeasurable. Therefore, no single mission is critical enough to justify the loss of the asset with which you have been entrusted. In this book, you will be given the skills necessary to formulate viable battle plans, use your ship to the full extent of its fighting capability, and return home to your loved ones when the crisis subsides.



COMMAND AT SEA

The burdens of command at sea are many, from overseeing the safe navigation of the ship to ensuring high crew morale. At the heart of many procedures, regardless of their appearance on the surface, is the pursuit of readiness and training. Consider something as apparently innocuous as the daily Messing and Berthing inspection. Taking them at face value, an outsider might view these tours as nothing more than an attempt to maintain military discipline and appearance through "spit-and-polish" white-glove inspections.

In reality, there is a much deeper purpose. The inspector looks for gear that is improperly stowed, which could fly loose and strike unsuspecting personnel in the event of violent maneuvering or the shock wave of an explosion close aboard. Unnecessary fire hazards are eliminated to reduce the possibility of a fire's spreading if the boat sustains battle damage.

Perhaps most important to the submariner, the inspector will identify and eliminate sound shorts. Sound shorts are created when objects are placed between machinery, which is isolated on sound-absorbing mounts from the deck by design, and the deck or hull. These objects transfer the vibration and noise to the ship's hull, thereby increasing the amount of radiated noise that could be detected by hostile units, as well as increasing

the threshold of detection for the *Seawolf*'s sensors.

Other procedures, such as sonar and weapons drills, are more easily recognizable as methods of improving battle-readiness. Aboard the *Seawolf*, you may be confident that all necessary training, inspections, and drills are being scheduled and executed by your executive officer, the second in command. They are discussed here not as features of the game, but to establish the proper tactical mindset for subsequent discussions.

There is no room for wasted motion aboard a commissioned warship. Every activity must contribute to the common goal, the one guiding Law of Command at Sea: *To be constantly prepared to deliver firepower and sustain damage in support of the mission*. That purpose forms the heart of your command, and should govern all the decisions you make.

THE NAVAL MISSION TRIAD



Regardless of the specifics spelled out in the operations order, all naval missions are easily grouped into one of three categories: *Sea Control*, *Sea*



Figure 3-1
What it's all about: The delivery of firepower
U.S. Naval Institute Archives

Denial, and Power Projection. Sea Control involves sufficient positioning of resources to prevent the enemy from interfering with your free use of the sea for any purpose. Sea Denial is the antithesis of this; it is the interdiction of the enemy's use of the sea. Power Projection is the gathering of sufficient force in a given area to strike at a specific target within the enemy's sphere of influence.

Sea Control

Sea Control is practiced at every level of naval operations. It is, in essence, defense through readiness. Naval commanders must be constantly prepared to deal with emerging threats as they appear. In keeping with the Law of Command at Sea, this entails staking out a moving territory around the *Seawolf* and any assets she may be guarding, this territory is defined by the maximum limits of your sensors. Every contact that enters the boundaries of your area of sea control must be detected; classified as friendly, neutral, or hostile; tracked—and, if hostile, targeted.

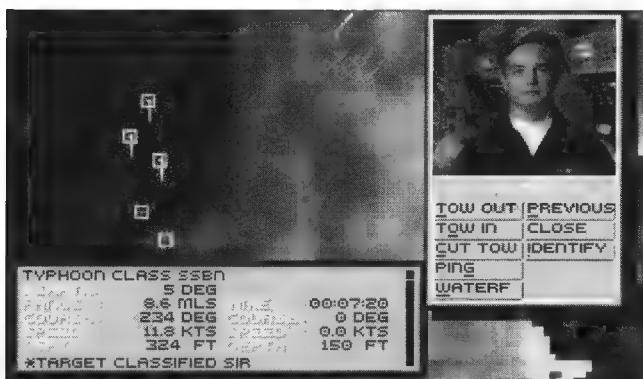
The difference between tracking and targeting is significant. A track for a contact of interest is established shortly after its initial detection. Tracking information consists of the most recent course and speed information available on the contact. This information is valid only for the instant when it is accessed, because the contact could maneuver at any time. When the contact does maneuver, there will be a very brief delay before the information is updated on the tactical plot. Using the Target button on the SCP menu, several tracks may be examined in sequence, as shown in Figure 3-2.

Tracking info alone is insufficient to engage the contact, however, and therefore does not fulfill your need to be prepared to deliver firepower.

While the contact is being classified, tracking info is being fed to the weapons and fire-control consoles of the *Seawolf*. They are using this information to generate a fire-control solution. At roughly the same time as the sonar technicians successfully identify or classify the contact of interest, a fire-control solution should be available.

Your actions at this point are governed by several factors. First, have you been

Figure 3-2 Tracking info as displayed on the tactical plot.



granted authority to fire? In some cases during the campaign, you are specifically ordered not to initiate hostilities and are restricted to returning fire only when fired upon. Check your mission orders carefully to note when these restrictions, collectively known as Rules of Engagement (ROE), are present and behave accordingly.

Roe Doctrine

ROE are not designed to cripple the decision-making ability of the on-scene commander. Rather, they act as a standard operating doctrine that precludes actions that the national command authority has determined would escalate, rather than minimize, the crisis in progress. Given that function, it is now important to understand some of the specifics of the doctrine and to evaluate the impact of this guidance on the mission.

First and foremost, you must internalize the fact that departure from the stated ROE virtually guarantees that you will fail to achieve the stated victory conditions. In *Seawolf*, departure from the ROE means losing the game. In the real world you can lose your life or, at a minimum, your career through a similar lapse in judgment. Second, regardless of the stated ROE, defense of the ship remains paramount and you can always act in self-defense. Third, the vast majority of the real-world provisions that situationally alter the ROE have been simplified in *Seawolf* so that players will not have to memorize long lists of rules and special conditions. The basic Warning and Weapons conditions remain, however, and will be used for the specific mission analysis conducted in the second section of this book, “Going to War.” They are summarized as follows:

Warning White: Hostile action is possible but unlikely

Warning Yellow: Hostile action is probable

Warning Red: Hostile action is imminent

Weapons Tight: Fire in self-defense only

Weapons Free: Engage hostile contacts at will

The elements that summarize the doctrine can be combined in any fashion. Warning Red, Weapons Tight, for example, would mean that one can expect hostile action but can only be reactive, not proactive, in dealing with the threat. If this seems constraining, it should, because it reflects the actual limitations faced by naval officers in day-to-day operations, as

opposed to a wargamer's approach of shooting first and asking questions later. Thus, to ultimately achieve the stated victory conditions, you must understand your obligations under the ROE and consider the impact of this influence on every decision. In later sections, you will gain an appreciation of other, similar constraints; in the aggregate, these should increase your appreciation of the complexity of modern naval warfare.

The Order of Engagement

Assuming that you have the authority to engage hostile contacts that are within your area of control, and that there are several such contacts, *you must have some method of prioritizing the order in which you engage those contacts*. Before the battle, your primary and secondary targets may be delineated in the mission orders. If so, these seem to lend a natural order of precedence to the order of engagement (i.e., go after the primary targets, then follow up with secondary objectives or targets of opportunity afterward). This initial assessment may change, however, when you examine the enemy Order of Battle (OOB). For example, if your primary objective is to sink an amphibious task group, as in Mission 29, an optimum order of engagement might be to deal with the screening warships first, then to proceed to the primary objective.

The order of engagement that you determine from this process forms the core of your initial battle plan. However, because war is a dynamic process, and the enemy rarely complies with the scheme of attack you have envisioned by presenting the targets in the desired order, you must be capable of altering the existing battle plan "on the fly" and redefining the order of engagement instantaneously. To do so, you must evaluate the threat of each new contact in terms of *potency* and *immediacy*.

Potent threats are those forces which, if left unchecked, are capable of preventing mission accomplishment. Naturally, there are varying degrees of potency within this grouping. Some units may be eminently capable of executing the threat; others may be noteworthy only on a good day and with a lot of luck. In either case, it is the Commander's task to examine every new contact against the enemy OOB and assess the degree of threat to his own force.

Immediate threats may or may not be capable of preventing mission accomplishment, but they do pose a clear and immediate danger to friendly forces, usually because they have already attained weapons launch positions, though they may not have detected you yet.

In assigning these values to new contacts, you are cautioned to know the enemy. Platform-specific guidance is provided in Chapter 4 to aid you in your analysis. You must employ the knowledge of sensor and weapons ranges presented there to categorize each contact within this hierarchy:

- a. Potent and immediate (EXAMPLE: Destroyer tracking you with active sonar and in firing position for an attack).
- b. Immediate only (EXAMPLE: ASW Helo searching in proximity to your position; you believe you are not yet detected).
- c. Potent only (EXAMPLE: Enemy SSN detected outside firing range).
- d. Neither potent or immediate (EXAMPLE: Merchant shipping).

The appearance of a Class A threat is your signal to drop everything else and eliminate the interloper. Class B threats also require swift action, but you should not prosecute them at the expense of the primary objective. Class C threats should be the warrior's bread and butter, because they are detected before they have achieved launch positions. This allows a deliberate planned attack to eliminate the threat in conjunction with, or as a followup to, the main objective. Or, if the prosecution of such an attack is deemed too risky to attempt in light of other elements in the tactical situation, then enough time has been purchased to maneuver to avoid the threat. Class D threats may be dealt with at your leisure.

Please note that firepower is not the only criterion for threat classification. A merchant vessel can be a Class A threat if it is providing targeting data to other units of the enemy force. Remember to assess enemy capabilities rather than intentions.

Typical Sea Control Missions

Generally, submarines are assigned Sea Control missions only when operating in conjunction with other assets, such as escorting a convoy, task force, or SSBN. These types of missions are collectively referred to as SSNDS, which stands for "SSN (nuclear attack submarine) in direct support." The profiles for these duties differ considerably, so each will be examined separately.

Escorting a Boomer (SSBN)

SSBNs are most vulnerable when leaving and entering port. Realizing this, both sides attempt to intercept SSBNs during these periods. In peace-

time, Soviet attack boats will linger outside the King's Bay and Groton submarine basins to attempt to pick up SSBNs as they depart to their patrol stations. Their goal is to trail these assets undetected and remain with them throughout the patrol. Should an SSN detect sounds that indicate an ICBM launch from her quarry, her crew has standing orders to sink the offender before the remainder of her missiles can be fired.

To avoid this possibility, friendly SSNs will leave port ahead of the boomers to sanitize their route to the edge of the continental shelf. During peacetime, this entails detecting any Soviet submarines and engaging them in a dangerous game of cat-and-mouse that occasionally leads to underwater collisions. The intent is either to drive off the Soviet SSN or to keep her occupied long enough for the SSBN to slip away undetected. If they are successful and the SSBN gets to deeper water, she will be able virtually undetectable for the remainder of her patrol. Occasionally, U.S. SSNs will accompany the boomer to the patrol zone and act as "linebackers" for her protection, but this is a less common practice than in the Soviet navy.

During the first few days of the crisis that forms the setting of *Seawolf*, all U.S. SSBNs were ordered to their wartime patrol stations. There were a few engagements, as yet undisclosed to the press, off the U.S. coast in conjunction with these sorties. Four Soviet SSNs were destroyed; one U.S. SSN was damaged and forced to limp back to Groton for repairs. All SSBNs proceeded to their patrol zones unscathed.

The Soviets have been less fortunate in getting their ballistic missile submarines to sea. During the period of internal disarray they experienced prior to their recent reconsolidation, many of these subs were poorly maintained. They have scrambled to effect the necessary repairs and are expected to field these assets soon. When that occurs, the shoe will be on the other foot. The *Seawolf* will be ordered to attempt to intercept and eliminate the Soviet boats to preserve the U.S. nuclear advantage. God forbid that the SSBNs will be necessary before the crisis subsides. You will find guidance on how to conduct these missions under the heading "Power Projection."

Escorting a Task Force

The primary threat to our carrier battle groups will be cruise-missile-equipped submarines (SSGNs). Of these, the Oscar class SSGN is the most deadly, with a complement of 24 SS-N-19 Shipwreck missiles that can be

fired from hundreds of miles away. To counter this threat, we are relying on the speed of the battle groups to force the SSGNs to maneuver to attain firing position. A number of 688-class SSNs have been placed in ASW “kill zones” in advance of each group’s planned movement. To eliminate the possibility of blue-on-blue encounters (i.e., friendly fire), no other assets are allowed into these areas. The Soviet SSGNs will likely attempt to approach the battle groups by alternately sprinting to maintain position, then drifting to reacquire their targets. The 688s should be able to detect them easily during the sprint phase and kill them while they are blind.

Unfortunately, the Soviets possess many submarines of these types, and we cannot be sure that the 688s can get them all. Because of the cut-backs in defense spending we have endured prior to this war, we are now in a difficult position. We cannot afford to allow even one of these battle groups to be put out of action. That is where you come in. Because you will be forward-deployed about 90 percent of the time, you are likely to encounter Soviet SSGNs well before they can reach the 688 kill zones. When you do, these must be considered targets of the highest priority, to be dealt with swiftly in conjunction with your primary mission. The more of these boats you eliminate, the greater our chance of victory in the months ahead.

Escorting a Convoy

Due to the limited Sealift capability of NATO forces, all convoys must be guarded with our best assets. The *Seawolf* can expect to draw this crucial duty several times in the course of the campaign. Unlike battle groups, convoys are very speed-limited. Their inability to maneuver to avoid oncoming threats will complicate your tasking immensely. Instead of being allowed to assume a barrier patrol station, where you could operate with impunity against any targets that entered your sector, you will be forced to stay on a short leash with the main group and be prepared to deal with threats that could appear from any axis.

Your proximity to the main body will also degrade the performance of your sonar suite. It will be more difficult to pick out targets against the background noise generated by the convoy, but you must learn to do so quickly and correctly. Further, their high self noise will also act as a beacon to any enemy submarines in the area. Chances are that any contact you detect will already have attained firing position relative to the assets you are guarding, though it may remain unaware of your presence. Use

this window of opportunity to get in the first shot. To do this, you must have correctly identified the hostile platform. Remember, shipping lanes are used by all nations, and the possibility of blue-on-blue exists.

It is suggested that you study the sonar signatures provided in Chapter 4 to develop your ability to manually classify targets before attempting a convoy escort mission. Your sonar technicians are good, but they tend to be overcautious at times. This is one tactical situation in which you cannot afford that luxury. Take command, classify the targets, and put ordnance on top of their heads immediately.

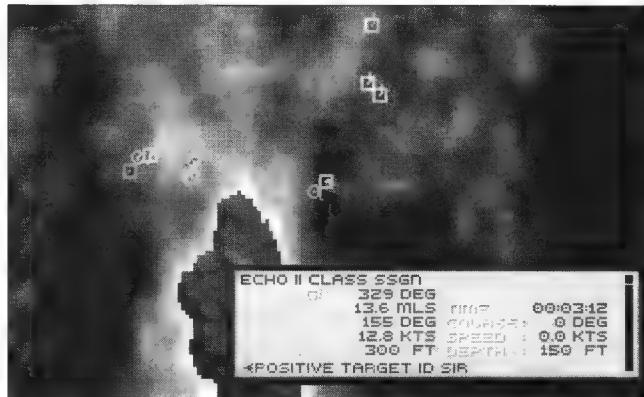
Introduction to the TACSIT

A specific tactical situation designed to measure the recipient's ability to make command decisions is known as a *TACSIT*. You will encounter two TACSITs in this chapter, which we hope will test and reinforce the knowledge presented so far. Study these sections carefully. Feel free to skip ahead to Chapter 4 for information about the platforms presented in the TACSIT. After you are comfortable with your understanding of the situation presented, look through the questions that follow. In formulating your responses to these queries, consider all the possible contingencies and ramifications of the decisions you propose. When you are satisfied with your decisions, continue reading in the text. At the end of the chapter, solutions to both TACSITs are provided. When you review the solutions, it is not necessary that your answers exactly match the ones provided, only that the basic intent be the same. With that understanding, consider the following TACSIT, which is relevant to Sea Control.

TACSIT One

You are escorting a convoy of eight merchant ships in the Sea of Japan. Tensions are high, but general warfare has not broken out. Your ROE specifies Warning Yellow: Weapons Free. Friendly shipping other than your convoy is known to be present in the area. Several Soviet-flag merchant ships are also within visual range of the convoy at problem start. You are at periscope depth 5000 yards ahead of the convoy, which is deployed in two columns of four ships each. Your towed array is deployed. Water depth is 1,500 feet, with an initial thermal layer at 160 feet and a deep sound channel between 400 and 580 feet.

1. Do the Soviet merchants pose a threat to the convoy? If so, how?
2. What actions can you take against the merchants at the beginning of the problem?
3. What would be a likely approach route for any Soviet SSs (diesel boats) or SSNs attempting to attain firing position on the convoy?
4. If the Soviet subs wanted to use the thermal layer for cover, what would their best depth be?
5. Assume that one of your merchants is struck by a torpedo before you have developed any subsurface contacts. What actions can you take against the Soviet merchants now?
6. What tactics would you use to acquire the Soviet sub that conducted the initial attack?



TACCSIT One Situation Map

Sea Denial

Sea Denial is the conduct of any and all operations that are designed specifically to restrict or deny the enemy's free use of the sea. The historical roots of the Sea Denial mission lie in the conduct of naval blockades and the *guerre de course*, or commerce war. Employed by virtually every maritime power in the world at one point or another in its history, the naval blockade prevents the enemy's use of the sea at the point of origin. Traditionally, squadrons of fast, capable warships were positioned outside the ports of the offending nation to engage and destroy any shipping that emerged. Often the mere threat posed by such massing of power was sufficient to keep enemy fleets bottled up in port. Such was the case with the Kriegsmarine during World War II. They were so intimidated by British naval forces that they allowed themselves to be destroyed by airpower without ever venturing out of Scapa Flow to break the blockade.

Modern submarines, such as the *Seawolf*, are much more effective than their surface counterparts at imposing a blockade. Given the presence of surface search radar coverage of inland waters, blockading ships would be detected and engaged with the massed firepower of land-based air



Figure 3-3 Weapons of the blockade: old and new
U.S. Naval Institute Archives

assets. The *Seawolf*, however, can lurk offshore indefinitely, striking at will the assets that attempt to run her blockade. Conversely, she could conduct initial strikes, then proceed to other missions, confident in the knowledge that the enemy will waste a tremendous amount of time and effort searching for her long after she has gone. Further, their inability to find and destroy the source of the attack will do nothing to alleviate their doubts about sending other ships into those waters. In essence, the *Seawolf* can accomplish two missions at once.

World War II also provides an outstanding example of the second component of Sea Denial, commerce raiding. The German U-boat campaign in the North Atlantic was a classic attempt to pursue a strategy of Sea Denial. The German High Command sought to buy themselves time to consolidate their position in Europe by interrupting Allied sea lines of communication (SLOC). Their efforts certainly prolonged the war, and came dangerously close to preventing an Allied invasion effort altogether. Fortunately, technological advances in the developing field of sonar allowed the Allies to counter the U-boat threat with an effective campaign of Sea Control and an unprecedented shipbuilding effort.

Today, the impact of a Sea Denial campaign one-tenth the size of Germany's effort would be 10 times as decisive in execution. The reasons

for this exponential increase are simple to understand. First, industrialized nations are much more dependent on imports, such as oil, than they were 50 years ago. Second, it is much more economical for shipping lines to carry bulk cargoes such as oil in a single huge supertanker than in 20 or 30 smaller-capacity ships. Third, the consolidation of the merchant fleet into fewer, larger ships has resulted in a general decline in the shipbuilding industry. The direct result of this development is that no nation can replace the merchant assets that would be lost to a campaign of Sea Denial at a rate that would prevent that campaign from having a decisive effect.

The same 50-year period has seen quantum leaps in the fields of submarine and weapons design. World War II torpedoes were notoriously unreliable. Even after the incorporation of mercury switches to arm the warheads, far too many targets escaped an attack with nothing more than a dent below the waterline. Further, in dozens of cases four or more torpedo hits were necessary to finish crippled ships.

The *Seawolf's* Mk 48 ADCAPs suffer no such limitations. They are virtually 100 percent reliable in combat. Further, because they are designed to explode under the keel of the intended target, creating a huge pressure bubble that lifts the ship out of the water and snaps it in two at the keel, most ships are destroyed with a single shot. The largest enemy ships you will encounter, the Kiev and the Kirov, will require two or three ADCAPs to finish them off.

As weapons have become more lethal, sub-silencing technology has continued to outstrip the ability to detect these denizens of the deep. This means that each platform is more survivable. When you combine that with the fact that fewer weapons are necessary for each target, and that fewer targets must be destroyed to cripple an entire nation's war effort, you begin to see the "big picture."

Sea Denial is the cornerstone of the maritime strategy developed to counter the re-emergence of the C.I.S. fleet. In the vast majority of the missions in this campaign, you will be ordered to take the *Seawolf* into the shipping lanes (SLOCs) to conduct anti-surface warfare (ASUW).

You must not fail in these endeavors. If C.I.S. task forces and convoys are allowed to reach their objectives unmolested, or C.I.S. SSNs are given free rein in the SLOCs, NATO will be forced to sue for a peace that will alter the entire world as you know it. Because this is an unacceptable resolution to the crisis, there are several other things you must know.

Anti-Surface Warfare

You have two primary methods of prosecuting surface contacts. You may maneuver into firing range to engage with torpedoes or you may elect to stand off and attack the enemy with missiles. The first option is more favorable in most instances. The reasoning behind this conclusion follows.

In terms of effectiveness per weapon expended, the Mk 48 ADCAP will outperform either the Harpoon or the Tomahawk cruise missile. The reason for this has nothing to do with the quality of those weapons, since both are proven shipkillers. What makes the difference is the surface ship's ability to defend herself against missiles and her inability to resist torpedoes.

Shipboard AAW Defense

Warships must constantly be prepared to defend against cruise missiles launched from other ships, aircraft, and submarines such as the *Seawolf*. Because of the preponderance of these weapons on the battlefield, a method of layered anti-air warfare (AAW) defense has been developed. Exclusive of fixed-wing carrier-based aircraft, which are not present in *Seawolf*, the first layer of this defense consists of surface-to-air missiles (SAMs), which can be used to destroy inbound anti-ship missiles at ranges between 4 and 40 nautical miles (see Figure 3-4).



Figure 3-4 Standard missile engagement vs. inbound harpoon
U.S. Naval Institute Archives

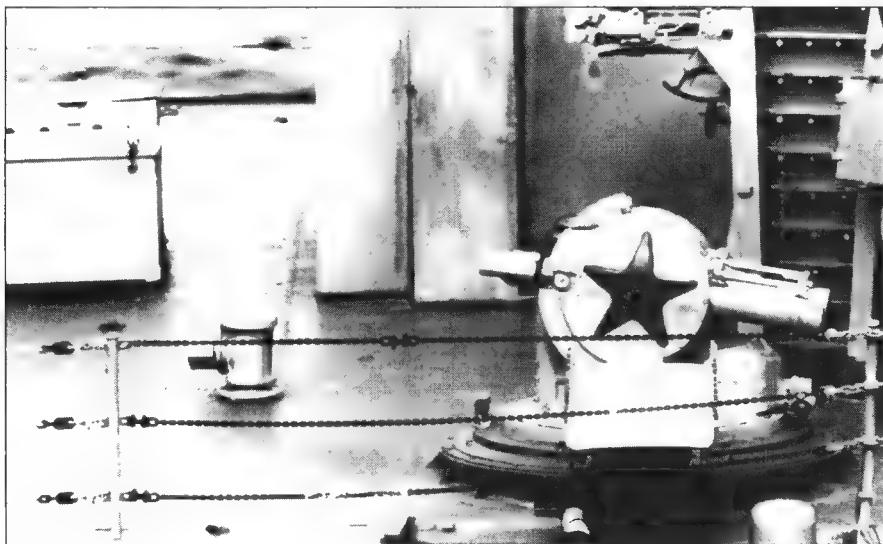
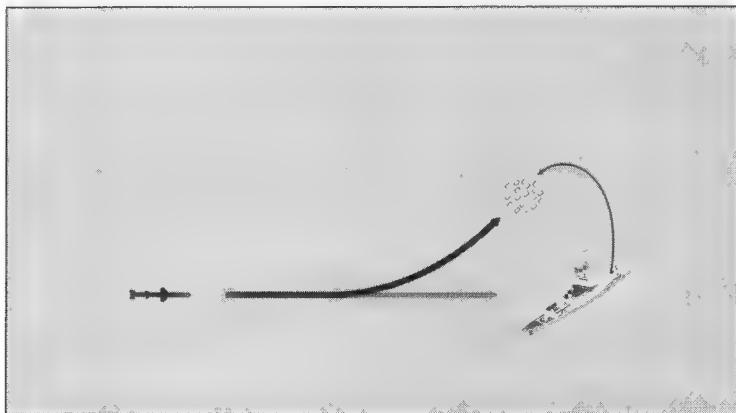


Figure 3-5 Detail of a Soviet chaff launcher
U.S. Naval Institute Archives

Missiles that penetrate this outer layer are assumed to have locked onto the target with their seeker heads. Therefore, the next move by the surface ship is to attempt to seduce that missile onto a false target through mechanical and electronic countermeasures. The only mechanical countermeasure is *chaff*. Chaff canisters are bundles of tightly packed aluminum strips cut to the specific lengths that provide an attractive radar return to the exact frequency band used by the terminal radar homers of cruise missiles. Chaff launchers, such as the one shown in Figure 3-5, shoot these bundles up and away from the targeted ship, where they explode and expand into a cloud of deceptive clutter.

This cloud of foil drifts on the wind and falls behind the ship that deployed it. While doing so, the cloud continues to grow, providing a larger, and possibly more enticing, radar return to the missile seeker head. If the chaff employment is successful, the missile will break lock with the targeted ship and “engage” the chaff cloud, passing harmlessly astern of the ship. An overview of a successful chaff engagement is provided in the accompanying sequence of illustrations.

Concurrent with chaff employment, warships will also be attempting to jam and seduce the missile electronically. Each class of ship has different electronic counter measure (ECM) equipment which performs this function with various degrees of success. Discussing each of the variants used would require far more effort than is warranted by the tactical benefit



Chaff is employed to seduce missile terminal homing

it would provide. Therefore, the AN/SLQ-32 system, employed by the majority of U.S. warships, will be used to illustrate generically the way all the ships you will encounter in *Seawolf* attempt to employ ECM to defeat inbound cruise missiles.

Figure 3-6 shows one portion of the AN/SLQ-32 system, the external antenna array. Array faces such as this are positioned on the superstructure of the ship in a manner that allows them to "listen" to electronic emissions coming from any quadrant around the ship. Electronic emissions travel even greater distances than their underwater counterparts, sound signals. The receivers of the AN/SLQ-32 are capable of detecting the active radar emissions of other ships more than 100 miles away.

These signals provide a line of bearing to the platform from which they originated. *While at periscope depth, Seawolf's ESM (Electronic Support) mast can also provide single lines of bearing to targets over the horizon.* If several ships receive the same signal, and their geographic separation is sufficient to resolve the bearing ambiguity, a passive cross-fix of the ship that is radiating may be obtained. Because the *Seawolf* operates independently most of the time, she is not capable of passively cross-fixing with other friendly platforms.

In addition to passive, over-the-horizon targeting, the AN/SLQ-32 is designed to provide the first warning of cruise missile launch, seeker head activation, and lock-on. This affords the ship multiple opportunities for engagement. Prior to lock-on, electronic warfare technicians, seated at a console like the one shown in Figure 3-7, will attempt to jam the seeker head of the missile with white noise (strong signals that sweep across the entire bandwidth in which the missile is radiating). If this technique suc-

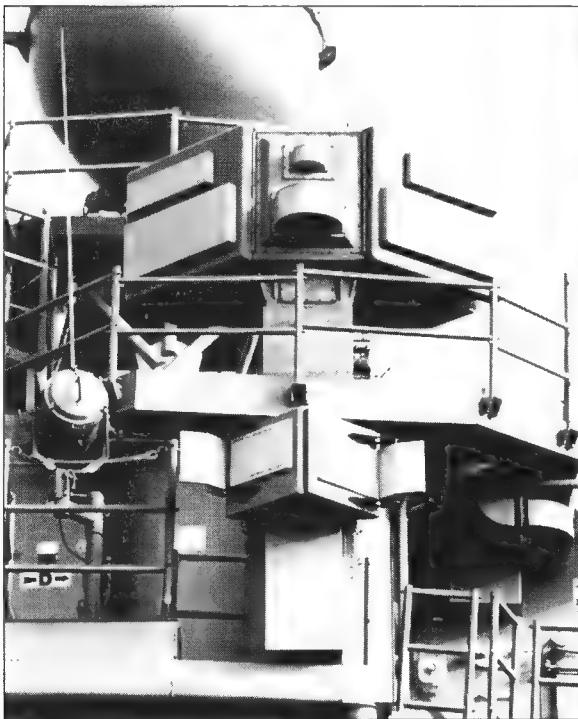


Figure 3-6 AN/SLQ-32 array face
U.S. Naval Institute Archives



Figure 3-7 EW technicians conduct a missile engagement
U.S. Naval Institute Archives

ceeds, the missile will not see the ship as a target and would only strike it by sheer luck. If the seeker head does lock on, the next technique employed is to “capture” the active pulse sent by the seeker head, electronically shift and delay the return, then retransmit it back to the missile. These false returns are designed to make the missile think that the ship is on a slightly different bearing and at a different range than it actually is, which should cause the missile to dive harmlessly into the water. Missiles that are defeated by ECM are referred to as “soft” kills, because they are not actually physically destroyed.

If all of this high technology fails, ships still have one last-ditch chance to defeat the missile; the point defense system. As with ECM suites, there are many different types of point defense weapons. For simplicity’s sake, we will use the Vulcan Phalanx Close-In Weapons System (CIWS, affectionately referred to as the “cheese-whiz”), used by the U.S. Navy, as our example. The Soviets use variations of this design, the Ak 230 and Ak 630, which are slightly less capable than the Phalanx, but

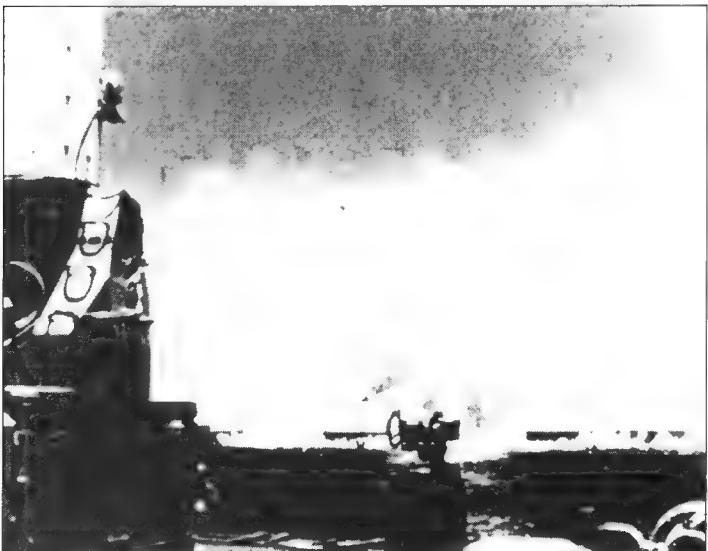


Figure 3-8 Vulcan Phalanx destroying a cruise missile
U.S. Naval Institute Archives

that they work in combination to bring the two radar returns together. This makes the unit extremely accurate and deadly, though only to a range of about 2 miles.

There are two lessons to be learned from this discussion of shipboard AAW systems. First and foremost, *the warships you encounter are extremely well prepared to deal with the rather minimal missile threat posed by the Seawolf*. Second, *when you fire a missile, the point at which it emerges from the water will mark your exact position for the enemy*. Every unit in the defending force will designate that point as *datum*, which is the last known position of a submarine, and will begin the hunt for you in earnest. Therefore, your ASUW missiles, both Harpoon and Tomahawk, are best reserved for specific tactical situations in which their speed can work to your advantage.

Perhaps the best example of such a situation would be during an escape and evasion period following your initial attack. You have damaged or sunk one or more ships in an enemy convoy and are attempting to run away from destroyer escorts that have gone active on their sonars and are closing on your position. While running away, you can fire Harpoons or Tomahawks “over your shoulder” at the pursuing ships. Their attention is devoted to ASW rather than AAW during the hunt, so this might catch them unprepared. At best, you will succeed in thinning them out a bit or, at a minimum, your surprise missile salvo will persuade them not to be

each ship carries two to three times as many as a U.S. warship, which more than evens the defensive score.

The Phalanx consists of a M61A1 20-mm Gatling gun which is capable of firing 3,000 rounds per minute. Each round has a depleted-uranium core and a tungsten body to withstand the tremendous force of impact on striking a Mach 2+ cruise missile and to penetrate the warhead for a “hard” kill. The unit operates in conjunction with two radars; one tracks the missile, and the other tracks the stream of bullets from the Phalanx. The radars are linked such

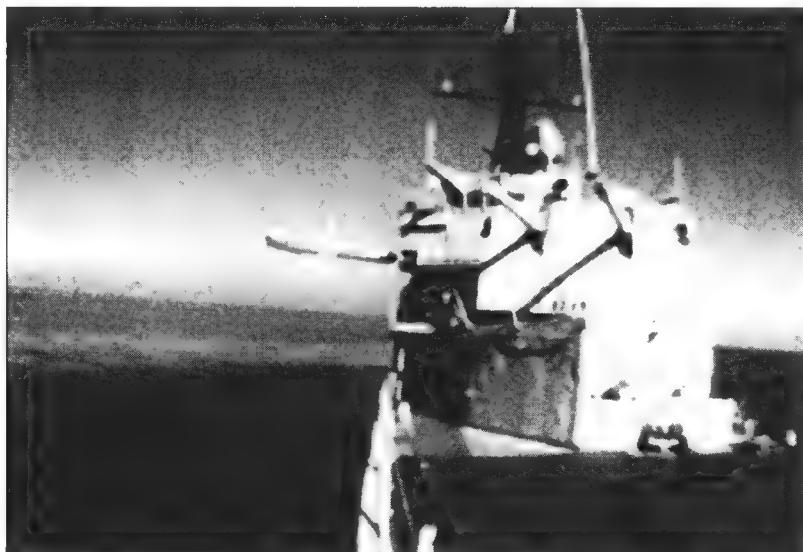


Figure 3-9 Tomahawk missile a split second away from impact
U.S. Naval Institute Archives

quite as tenacious in coming after you. If you are lucky, the last thing the enemy will see is something like Figure 3-9.

Conducting a Torpedo Attack

The delivery of torpedoes is the classic role of the submarine, and is your most effective method of engaging the enemy, both surface and subsurface. In setting up a torpedo attack, you must consider the angle of approach, the optimum firing range, the best type of attack mode with which to program the torpedo, and your escape and evasion plan for after the shot.

The angle of your approach may be foreordained by the positions of the contacts when you detect them. If they are high-speed contacts, your first shots should be taken from within a 120-degree arc centered on their bows, if at all possible. Come to periscope depth at 8 to 9 miles from the formation so you can watch the show you are about to put on. Load four ADCAPs in long-range mode. Target the leading ships of the formation in succession and fire. Your torpedoes should be set to a depth below that of the thermal layer, so that the intended targets will remain unaware of them until the last possible instant. The ADCAPs will swim out to the target area at 30 knots, following the commands they receive via the guidance

cable. When they are within 1000 yards of their targets, they will pop up through the layer, lock onto their contacts, and kick up speed to 55 knots for the terminal homing run.

The targeted ships will have no place to run or hide. Further, if your attack has been properly conducted, they also will still have no targeting data on the *Seawolf*. This should allow sufficient time for followup attacks at their beams (classic side shots) if they continue along their present course after the initial salvo. Failing this, quartering shots (directed at the 120-degree arc centered on their sterns) may also be effective, though you will have only a short window of opportunity in which to conduct these attacks before the formation gets out of range.

Remember, even at the high-speed setting of 55 knots, a target moving away from you at 30 knots would experience a torpedo closure rate of only 25 knots. This means the torpedo would take 12 minutes to close a 5-mile gap from the point of firing, as opposed to a little over 3 minutes for a bow shot taken at the same range. Twelve minutes can be an eternity in combat, particularly when you cannot maneuver if you wish to maintain the torpedo's guidance link.

For slower-moving formations, such as escorted convoys, the optimum angle of approach is from astern, in their baffles. Although destroyer escorts will occasionally reverse course to clear the baffles, just as you should do periodically, the periods between these occurrences should allow you sufficient time to maneuver into position 2 to 3 miles astern of the trailing ship.

Once you have attained this position, match speed with the convoy and load all four tubes with high-speed ADCAPs. Target the rearmost ships in the formation in turn, designating one torpedo for each. When all four fish are in the water swimming toward their targets, prepare a followup salvo of four wake homers. These torpedo variants will follow the pressure differential created by a ship's wake until they either strike it in the stern, which will certainly render the victim dead in the water if they don't sink it, or run out of fuel. Target four other ships in the formation and launch the wake homer salvo as soon as the first tor-

Figure 3-10

Target obscured by spray from expanding shock wave of Mk 48 explosion



pedo from your initial salvo strikes home. If you are brazen enough to watch this one through the periscope, you should have the satisfaction of seeing something like Figure 3.10.

Because the other torpedoes in the first salvo should be close enough to their targets to have acquired them actively with their seeker heads, you may now begin evasive maneuvers without worrying about the guidance cables' being severed. Set a heading 120 degrees off your current course in either direction, preferably to the side away from the strongest escorts. Go to Flank speed and dive below 500 feet. When you have reached escape depth, slow to one-quarter speed, change course 90 degrees, and put a noisemaker in the water. Continue on this heading for no less than 5 minutes, then change course back toward the initial point of attack (provided there are no escorts directly on that path) and come to best depth. By now, the score should be "Seawolf 8, Convoy 0." Mop up the escorts at will or leave them to wallow in their own confusion.

Chokepoint Warfare

The easiest place to conduct ASUW is in a geographic chokepoint: a strait or narrow, between two bodies of land through which most of the world's oceangoing traffic must pass. Because every navy in the world is aware of this, they will also usually send submarines or ASW ships into these areas in advance of the main body to sanitize the corridor. Because these waters are also shallow, ASW prosecutions are difficult. There will be leakers, subs that escape the initial search and lie in wait for the high-value units: aircraft carriers, amphibious ships, and critical convoys.

While in command of the *Seawolf*, you will experience this situation from both sides, as the hunter and as the hunted. The greatest threat you will face in each case will consist of diesel submarines. They are extremely quiet when operating on batteries, and can use the high ambient noise in a shallow-water strait to their advantage.

TACSI^T Two

A Soviet invasion force has left Vladivostok bound for Diego Garcia in the Indian Ocean. Intelligence indicates that they have deployed an advance screening force of five combatants, the largest of which is the Kirov, some 100 to 150 miles ahead of the main body. SSNs may also be part of this group. The main body consists of Alligator and Ivan Rogov,

amphibious ships with a light destroyer screen. The *Seawolf* is ordered to abandon its Persian Gulf operations and proceed to intercept the Soviet force. Avoid detection at all costs. Amphibious landing ships are the primary objective; all other targets are secondary. Warning Red: Weapons Free.

1. If you were given a choice as to the optimum place to engage the Soviet force, what type of geographic feature would you look for?
2. As you are departing from your station in the Persian Gulf, your sonar crew detects a Charlie class SSGN entering the Straits of Hormuz, presumably to attack vital oil-supply SLOCs in the Gulf. What course of action do you propose?
3. En route to the Straits of Malacca, you encounter the Kirov and her escorts 100 miles southwest of the Indian Ocean entrance. You are 30 degrees off their bow at a range of 9 miles. What action do you propose?
4. Subsequently, you encounter the main body, six amphibs with four destroyer escorts at a range of 8 miles, 45 degrees on your port bow. You are on course 090, 12.5 knots at 150 feet. They are on course 180 at 8 knots. Describe your plan of attack.
5. Assume your escape and evasion subsequent to the attack were unsuccessful. You know have two Sovremenny class destroyers closing on your position at a range of 3 miles. You have the towed array deployed and cannot increase speed. Their attack is imminent. What do you do?

Power Projection

The final mission area is that of Power Projection. Just as the name suggests, the intent of such missions is to project offensive firepower deep into enemy territory. A common reason for such a mission is to force an enemy to consolidate any gains it has made and pull forces back for a stronger defense of the homeland. General Doolittle's B-52 raid on Tokyo during World War II was just such a mission. It also provided the secondary benefit of raising U.S. morale while lowering that of the enemy.

Another use of power projection is to conduct "punitive" raids, such as those performed by carrier battle groups against Libya and Iraq. Indeed, the aircraft carrier is the "big gun" when it comes to Power Projection, but

the development of the submerged launch Tomahawk has allowed submarines to become players in this arena as well.

The Land Attack Mission

In response to the successes of submarine-launched Tomahawks against inland targets during Operations Desert Shield and Desert Storm, the *Seawolf*'s construction specifications were modified to include 12 vertical launch tubes for the land attack variant of Tomahawk, the TLAM. These assets cannot be reprogrammed to perform against shipboard targets; that remains the exclusive privilege of their cousin, the TASMs.

TLAMs are extremely accurate and reliable. Using its onboard terrain-following computer, a TLAM can fly up to 600 miles away from its launch point without ever rising more than a few meters off the ground. TLAMs avoid all obstacles and rise and dip with changes in elevation to maintain their flight profiles. They are virtually impossible to detect and destroy, which complicates the enemy's air defense problem considerably. Further, they are accurate to within a few feet upon arrival at the target, despite the length of their journey.

Unfortunately, replacement rounds for these assets are again scarce, because of the period of fiscal austerity, discussed earlier, that preceded the current situation. Therefore, it is unlikely that the *Seawolf* will be called on to expend these assets except in the gravest emergency. Your briefing on their use, therefore, is intended only to prepare you for a battle of last resort.

Busting the Bastions

A more classic use of the *Seawolf* for Power Projection will be to hunt Soviet SSBNs deep in their "safe" areas, known as bastions. Given the extremely long range of Soviet ICBMs, their SSBNs can perform strategic nuclear missions without ever venturing out of their home waters. In fact, the only reason they would ever have to do so would be to shorten the flight time of their missiles.

Therefore, they have established heavily guarded patrol zones in the Sea of Okhotsk, in the Barents Sea, in the Kara Gulf, and even under the polar ice cap. The approach routes to these areas will be heavily patrolled by ASW ships and aircraft. The areas themselves will certainly contain a number of ASW mines and one or more Soviet SSNs, generally Akulas,

guarding the SSBN. This layered defense will make these missions the most perilous you will face while in command of the *Seawolf*.

When you are tasked to proceed to the bastions and eliminate one or more SSBNs, *your overriding tactical concern is to remain completely undetected until you have initiated the attack*. Under no circumstances should any ASW surface ships or enemy SSNs in the area be engaged prior to attacking the SSBN. If you fail to follow this advice, the primary target will slip away without being engaged, and all other force in the area will be concentrated on the *Seawolf*. The latter situation will arise anyway, making your escape and evasion very difficult, but to risk your own destruction without accomplishing the primary objective would be foolish.

Patience is the watch word when stalking an SSBN. Enter the bastion area at a maximum speed of 4 knots, with the towed array deployed. Both the SSBN and any SSNs that accompany her will be in their quietest modes, so they will not be easily detected. Your goal is to obtain a sonar track on the SSBN while avoiding the SSN. (If you hold contact on the SSN as well, try to position yourself on the other side of the SSBN from the SSN, so that your sound signature is at least partially masked.) This will be hardest to achieve when you are operating in the polar region, where the ambient noise generated by ice floes and other naturally occurring sounds will make any detection difficult.

When you obtain a targeting solution on the SSBN, exclusive of any SSNs, load two tubes with high-speed ADCAPs and two with stasis torpedoes. The latter are designed to wait in the area where they are launched for a short time before going active on their seeker heads and searching for a target. *You do not want to be in the area when stasis torpedoes activate; they can acquire the Seawolf as easily as any other target.*

While the tubes are loading, retrieve your towed array; you will need all the speed you can muster in a moment. With tubes loaded and the array on board, fire the two ADCAPs at the SSBN. Ignore the guidance cables, immediately order Flank speed, kick out a noisemaker, and change course away from the SSBN. Dive as deeply as you can during this process.

After 30 seconds, fire the two stasis torpedoes. If all goes well, they will activate in time to shoot the Soviet SSN, which will be charging after your noisy departure, dead in the face. After another 2 minutes, drop another noisemaker and change course by 45 to 90 degrees. Continue for 2 more minutes on this heading, loading two more ADCAPs while you do so. At the end of that time, order "all stop" and do a 180-degree turn to

clear your baffles. If any SSN guardians are still pursuing you, they will be going too fast to notice that you have stopped, and they will be putting a lot of noise of their own in the water. You should be able to classify them immediately on the sonar waterfall display. Shoot first and ask questions later.

With the SSNs dispatched, it is now important that you evaluate the effectiveness of your initial attack on the SSBN. While a single torpedo is almost always capable of killing an SSN, the dual titanium hulls of the large SSBNs such as the Typhoon often prove more resilient. If the enemy is not dead, he certainly has sustained hull damage and is probably struggling to survive. The damage you inflicted in the first round will increase his flow noise considerably, making him much easier to detect the second time around. Take your time, start the hunt over, and finish him off.

If SSN contact is held prior to your initial attack on the SSBN, the only major change in your tactics should be to load four ADCAPs at the beginning, versus two ADCAPs and two stasis torpedoes. Fire two ADCAPs each at the SSBN and SSN then begin the evasive sequence as described above. Go ahead and load the two stasis torpedoes as soon as you begin to evade, and fire them the instant they are ready. The remainder of the plan requires no revision.

SOLUTION TO TACST 1



1. Yes. The merchants can provide locating and targeting data to other ships and submarines.
2. Under Warning Yellow, Weapons Free, you know that hostile action is probable, but you must establish hostile intent to fire on the merchants. You cannot do so without “corroborating evidence” of Soviet units that are capable of delivering firepower in the area. Thus, at problem start, you can take no action against the merchants other than to track them for possible later prosecution.
3. Given the high level of self noise generated by merchant traffic, a likely tactic for Soviet sub skippers would be to hide underneath their merchant ships, hopefully masking their own sound signatures. At the closest point of approach between the merchants, a sub would probably scoot out into attack position.

4. Best depth is always layer depth plus 200 feet. In this example, with a layer of 160 feet, best depth would be 360 feet.
5. Hostile intent has been established. You may engage the Soviet merchant traffic at will while attempting to locate the enemy submarine.
6. Clear your baffles and steady up on a heading toward the side of the convoy that was struck. If you do not initially acquire a contact, drop below the thermal layer and continue searching. Remember our discussion of the fact that submarines can jump between layers, when multiple layers exist, to minimize their chances of being detected.



SOLUTION TO TACST TWO

1. Remember our discussion of geographic chokepoints. The most likely avenue of approach for a Soviet group leaving the Pacific bound for the Indian Ocean would be passage through the Straits of Malacca, near Singapore. Don't penalize yourself if your geography background is limited prevented you from naming the straits exactly. An answer of "chokepoint" is sufficient.
2. Because you have not yet left your original station, any detection that would result from your engagement of the SSGN would aid, rather than hinder your primary mission. If the Soviet High Command noted your presence in the Gulf as a result of this attack, they would have less reason to believe that you were a threat to their group bound for Diego Garcia. Also, the destruction of any SSGN is important, as noted in the section on Sea Control. Therefore, your best decision would be to destroy the SSGN as a target of opportunity, then to proceed with your primary mission.
3. Doubtless some of you will have regurgitated the "bow shot" tactics as an answer to this question. If this were an isolated tactical encounter, you would have been correct. Considering the "big picture," however, attacking the Kirov and her escorts would be a mistake. First, you would be alerting the amphib group, your primary objective, to your presence. Since they were detected as being 100 to 150 miles behind the advance screen, this would afford them ample sea room to maneuver to avoid you altogether. Second, the SSNs referred to in

your intelligence briefing were unaccounted for in the Kirov sighting. Therefore, any prosecution of Kirov carried a rather high risk of retaliation from an unseen adversary in the same backyard. Thus, the proper course of action would be to avoid the Kirov group altogether and lie in wait for the main body. If you succeed in attacking them, you have defeated the purpose of the Kirov screening force anyway.

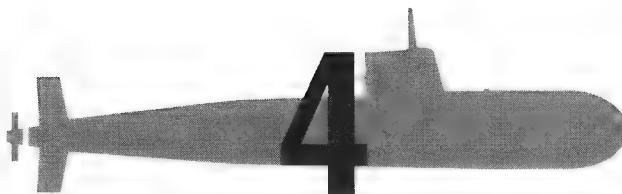
4. Continue your approach to the convoy, taking care to avoid the screening patterns of the destroyer escorts on the flanks. Assume an attack position 2 miles behind the trailing amphib and load four ADCAPs. Fire the ADCAPs when ready and load four wake homers immediately. Fire the wake homers when the first ADCAP strikes and begin evasive action as described in the section on ASUW.
5. Shoot them in the face with missiles, period.

SUMMARY



We hope that, in this chapter, you have learned how to think tactically, to analyze isolated events and place them in perspective within the “big picture.” The success of our cause, as well as the survival of the *Seawolf*, depends on your ability to do so. You have but one final step on the road to war; developing the ability to know the enemy better than he knows himself. Everything you need to achieve this understanding is provided in the next chapter.





Know Your Enemy

WHY KNOWLEDGE IS POWER



You already know how to gather the data you need from the environment. In addition, the passageways of the *Seawolf* are starting to look more familiar by now. Having found your way around the ship, you have felt confident enough to explore some mission profiles and tactics. All these are good things, but they do not exist in a vacuum. If you expect to survive in a hostile undersea environment, you must put the entire package together and keep it tied tightly throughout the trip. The string that binds this knowledge is an unquestioned understanding of the enemy.

Some clarification of the term *understanding* is in order. First, it is not the rote memorization of raw weapons or of maneuvering data, though having this information at your mental fingertips can be a real time-saver in the heat of combat. Second, you will not understand the enemy by analyzing his intentions. Unless you are capable of mental telepathy, you will never know with absolute certainty what an oppo-

nent's intentions are at any given moment. What you can analyze, however, are his capabilities.

The capabilities of the various enemy units are governed by artificial intelligence (AI) routines. These routines vary according to unit type and scenario. For example, an SSBN in Mission Four might have a general defensive AI routine that tells her to change depth and heading in response to a torpedo attack. The same SSBN might be given a much more detailed AI routine to govern the same situation in Mission Thirty, perhaps adding noisemaker drops, or speed changes, or even firing a torpedo in return.

Because the greatest threat to a submarine is another submarine, you will find that the *Seawolf* incorporates the largest variety of AI options for these units. Before diving into that discussion, however, it is important to put surface ships in the proper perspective.



SURFACE WARFARE DOCTRINE

Some general guidelines for ships are as follows:

Only warships will prosecute. Merchant, supply, cargo, and tanker ships cannot prosecute or maneuver to avoid an attack. The reason for the latter has to do with inertia. Most commercial cargo carriers have very efficient engine designs that conserve fuel at cruising speed, but have very minimal acceleration or deceleration power. Consequently, these ships cannot react quickly to an incoming torpedo. Transports are usually more responsive, because they are designed to operate in conjunction with a battle group. As such, these ships may attempt to evade, but they can never prosecute. For the ships that can take evasive action, possible tactics include course changes and immediate speed increases. Some surface ships will drop a noisemaker or two, and the Sovremenny will also attempt to detonate inbound torpedoes with their depth charges.

Warships will only prosecute the *Seawolf* only after you have done something that gives away your position. These actions include the use of active sonar, traveling at cavitation speed (which is three-quarter power or higher) or firing a missile. The latter pinpoints your position, because when the missile breaks the surface, every unit on the map will have seen it on a radar screen and marked its position as the current location of the *Seawolf*. When this occurs, expect every SSN-14 capable ship to fire a torpedo in your direction. Almost every mission will have at least one SSN-14-capable ship, but many of them will have multiple ships. These are the

ones that can be especially deadly to players who reveal their location through poor tactics.

Please note that firing torpedoes does not pinpoint the *Seawolf*'s exact location. The enemy will get a bearing for the sound the torpedo generates (because they cavitate constantly), but will have no idea of the range. Without a range, the SSN-14 cannot be used. Enemy ships can still fire an over-the-side torpedo down the reciprocal of the bearing, but they will not do this unless they have reason to believe the *Seawolf* is somewhere close aboard. The maximum range of this type of torpedo is 3 miles.

Only Sovremenny class DDs will actually use active sonar and pursue the *Seawolf*. When close enough, these units will release depth charges. What you must understand, however, is that having a Sovremenny on your back means that every other enemy ship on the map has located you too. Once the *Seawolf* is located, and active sonar gives a perfect position, the enemy units relay information over their radio circuits and everyone who is capable of conducting a standoff attack will do so.



Figure 4-1 Ships will use an over-the-side shot when threatened.

Here are some tips to increase your chances of survival:

1. Keep speed to a minimum, consistent with the mission objectives.
2. If you must use speeds of one-half power to close the range to a group, try to approach that group from their baffles and always maintain a minimum of one thermal-layer separation until you are ready to slow down and take the shot(s).
3. Reserve the engine settings of three-quarter power and above strictly for torpedo evasion.
4. When you must go fast to evade torpedoes, go deep at the same time. If bottom conditions permit, go to a test depth of 1,400 feet and drop two noisemakers in different layers on the way down. Also, do not move at Flank speeds close to the bottom or you risk running aground.
5. Never use missiles in a scenario until all SSN-14-capable ships have been destroyed or, if SSN-15 capable submarines are also in the mix, all ships must be destroyed.
6. Never come to periscope depth when SSN-14 capable ships and/or helicopters are nearby.
7. Use active sonar to find your targets only as a desperate final measure.
8. When you shoot, shoot to kill. Keep salvo sizes sufficient to blow the enemy out of the water from the outset, instead of leaving a cripple that can still help the other enemies locate you.

If you operate within these guidelines, you will spend a greater amount of time in proactively prosecuting your contacts than in reacting to the enemy's attempts to destroy you. Because you cannot avoid return fire altogether, however, it is now time to look at the individual ship types you will encounter in *Seawolf*.

Ship Classes

Jianghu FFL

Signal Analyzer Signature: |-----

Target Code: 0

Scenarios: 24, 26

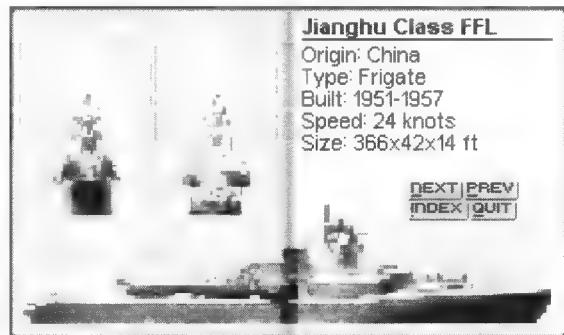
Speed: 25.5 kts

Weapons:

8/C 801 SSM
 4/100-mm DP
 8/37-mm AA
 2/RBU 1200 ASW RL
 2/BMB 2 d.c. mortars

Notes: In scenario 24, the Jianghu is assigned surface escort duty for a Chinese Convoy.

Because the unit has no indigenous ASW capability other than the RBU mortars, which are highly inaccurate, she is not a threat to the *Seawolf*, just another target. In Scenario 26, however, Jianghu is employed in his proper role as a surface raider. Again, she will not be a threat to the *Seawolf*, but her eight SSMs are a definite threat to the convoy the *Seawolf* has been assigned to protect.

**Haruna DD**

Signal Analyzer Signature: :|-----

Target Code: 1

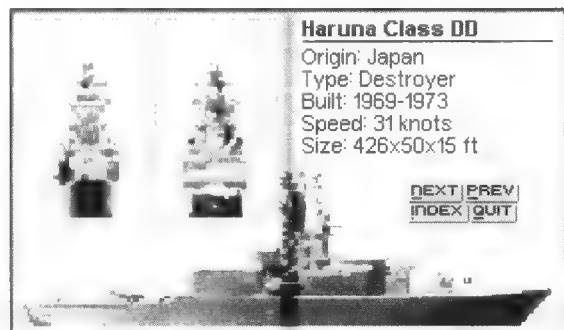
Scenarios: 29

Speed: 32 kts

Weapons:

2/127-mm Mk 42 DP
 1/Mk 29 launcher for Sea Sparrow
 2/20-mm Mk 15 CIWS
 6/324-mm Mk 68 ASW TT
 1/Mk 112 ASROC launcher
 3/HSS-2B ASW helicopters

Notes: The ASROC carried by the Haruna class DD is capable of a standoff ASW attack similar to that of the SSN-14, should Seawolf reveal her position unwittingly. The Haruna will not break off from her convoy to search for the *Seawolf*, however. Haruna will cut and run from torpedoes, however, and she accelerates and turns quickly.

**Takatsuki DD**

Signal Analyzer Signature: ||-----

Target Code: 2

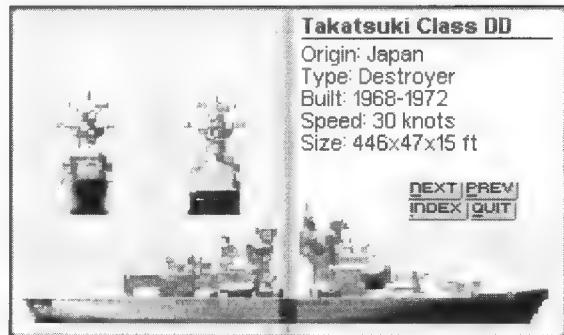
Scenarios: 29

Speed: 32 kts

Weapons:

- 8/Harpoon SSM
- 1/Mk 29 SAM launcher
- 1/127-mm Mk 42 DP
- 1/20-mm Mk 15 CIWS
- 1/Mk 112 ASROC ASW RL
- 1/375-mm Bofors ASW RL
- 6/324-mm Mk 32 ASW TT
- 2/127-mm Mk 42 DP

Notes: Like the Haruna, Takatsuki sports stand off ASW capability via the ASROC. In the escort mission she has in scenario 29, however, this will rarely be used. Takatsuki is a soft target, two torps to kill as a rule, but she is maneuverable and will take drastic action to evade.



Takatsuki Class DD

Origin: Japan
Type: Destroyer
Built: 1968-1972
Speed: 30 knots
Size: 446x47x15 ft

[NEXT](#) [PREV](#)
[INDEX](#) [QUIT](#)

Alligator 3 LST

Signal Analyzer Signature: -----

Target Code: 3

Scenarios: Many

Weapons:

- 2/57-mm AA
- 4/25-mm AA Starred Units
- 1/BM-21 122-mm RL

Notes: This all-purpose troop/cargo ship is nothing more than a floating target for the *Seawolf*. She will attempt to increase speed to 15 or 16 knots and turn away from inbound torpedoes, but her efforts are mostly just for show.



Alligator 3 Class LST

Origin: Russian
Type: Amphib Forces
Built: 1966-1976
Speed: 17 knots
Size: 364x51x14.7 ft

[NEXT](#) [PREV](#)
[INDEX](#) [QUIT](#)

Ivan Rogov LPD

Signal Analyzer Signature: -----

Target Code: 4

Scenarios: Many

Weapons:

- 1/SA-N-4 SAM syst.
- 2/76.2-mm DP
- 2/SA-N 5/8 SAM syst.
- 4/30-mm AK-630 Gatling AA



Ivan Rogov Class LPD

Origin: Russian
Type: Amphib Forces
Built: 1978-1983
Speed: 23 knots
Size: 518x80x21 ft

[NEXT](#) [PREV](#)
[INDEX](#) [QUIT](#)

1/122-mm automatic bombardment RL for BM-21 rockets

4/ Helix B helicopters

3/Ledbed air-cushion landing craft or 6 Ondatra class LCM

Notes: Ivan Rogov will attempt, mostly without success, to evade inbound torpedoes. She does, however, have a very slim chance of destroying an inbound cruise missile with the dual SAM launchers and AK-630 Gatling guns, which are similar to the U.S. Phalanx Close-In Weapons System (CIWS). She poses no threat to the *Seawolf*.

Kiev CV

Signal Analyzer Signature: -||-----

Target Code: 5

Scenarios: 1, 3, 7

Weapons:

8/SS-N 12

2/SA N 4 systems

4/76.2-mm DP

8/30-mm Gatling AA

10/ 533-mm TT

1/SUW N 1 ASW RL

2/RBU 6000 ASW RL

14-17/Hormone A or Helix A and Hormone B or Helix C
helicopters

12-13/Forger A/B VTOL aircraft

Notes: The primary ASW threat posed by the Kiev is her detachment of Hormone helicopters. Unfortunately, she never gets to use these assets as they were intended in any of the missions in which she appears. Therefore, the only threat she poses to *Seawolf* is a SSN-12 cruise missile attack, should the *Seawolf* have to conduct an emergency surface. Other than that, Kiev is just another target, although a rather large one. Use salvos of four torpedoes minimum to ensure a kill on her. Kiev can evade, but has difficulty accelerating. The shorter the range at which you launch the salvo, the quicker the kill.



Kirov CGH

Signal Analyzer Signature: |||-----

Target Code: 6

Scenarios: 1, 3, 7

Speed: 32 kts

Weapons:

20/SSN-N-19 Shipwreck SSM

12/SA-N-6 vertical SAM launchers

2/SA-N-4 SAM syst.

2/100-mm DP

8/30-mm AK-630 Gatling AA

1/SS-N-14 ASW cruise missile launcher

10/533-mm TT

1/RBU-6000 ASW RL

2/RBU-1000 ASW RL

3/Hormone A and or B helicopters or Helix A

Notes: In the first scenario, Kirov is nothing more than a target. In scenarios 3 and 7, Kirov will not search for *Seawolf* but will fire SSN-14s at her if otherwise located. In addition, Kirov will use her battery of SSN-19s if the *Seawolf* comes to the surface.

Koni FF

Signal Analyzer Signature: |---|-----

Target Code: 8

Scenarios: 2

Speed: 30 kts

Weapons:

1/SA-N-4 SAM syst.

4/76.2-mm DP

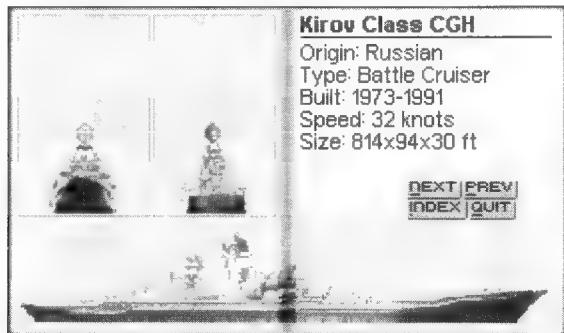
4/30-mm AK 230 AA

2/RBU-6000 ASW RL

2/d.c. racks

20 mines

Notes: The Koni appears in a single mission, "Duckshoot," which is appropriately titled. The AI that governs this class tells it to run away as soon as the *Seawolf* initiates the attack. It poses no threat and is a soft target. One shot, one kill. Hold your fire until he is within 3 miles and she cannot get away.

**Kirov Class CGH**

Origin: Russian

Type: Battle Cruiser

Built: 1973-1991

Speed: 32 knots

Size: 814x94x30 ft

[NEXT](#) [PREV](#)
[INDEX](#) [QUIT](#)
**Koni Class FF**

Origin: Russian

Type: Frigate

Built: 1978-1986

Speed: 22 knots

Size: 312x42x14 ft

[NEXT](#) [PREV](#)
[INDEX](#) [QUIT](#)

Kresta I CG

Signal Analyzer Signature: ||:-|-----

Target Code: 9

Scenarios: 7, 15, 25

Speed: 34 kts

Weapons:

4/SS-N-3B Shaddock SSM

2/SA-N-1 systems

4/57 mm DP

2/RBU-6000 ASW RL

2/RBU-1000 ASW RL

10/533 mm TT

1/Hormone B helicopter

Notes: The Kresta I does not pose an ASW threat to the *Seawolf*. He can kill *Seawolf* on the surface with the SSN-3B. He is a soft target with slow acceleration and moderate maneuverability. Two torps should be sufficient. One missile is always sufficient, as the SAN-1 GOA is the oldest AAW weapon in the soviet inventory and completely ineffective against modern cruise missiles.

**Kresta II CG**

Signal Analyzer Signature: ||:-|-----

Target Code: 10

Scenarios: 15, 23, 27

Speed: 34 kts

Weapons: 8/SS-N-14

2/SA-N-3 systems

4/57-mm DP

4/30-mm AD-630 Gatling AA

2/RBU-6000 ASW RL

2/RBU-1000 ASW RL

10/533-mm TT

1/Hormone A helicopter

Notes: This update of the original Kresta design poses a much greater threat to *Seawolf* than the original. The SSN-14 offers a standoff attack capability whenever the *Seawolf* is located, and the upgraded AAW suite provides the Kresta II with a slightly better chance against cruise missiles. For torpedo attacks, the previous guidance holds; use a salvo size of two.



Krivak I FFG

Signal Analyzer Signature: -||-----

Target Code: 11

Scenarios: 1, 3, 9, 10, 25, 27, 31

Speed: 30.6 kts

Weapons:

4 SS-N-14 Silex SSM

2/SA-N-4 systems

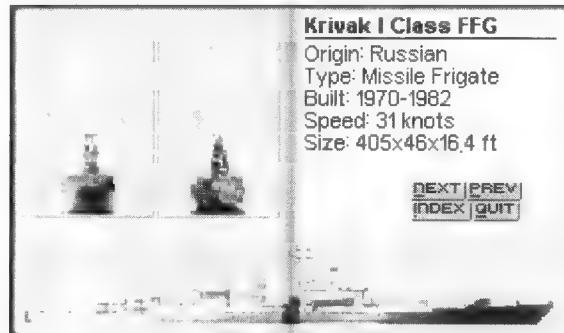
4/76.2-mm DJP

2/RBU-6000 ASW RL

8/533-mm TT

Mines

Notes: The Krivak is the multi-purpose workhorse frigate of the Soviet fleet. It will be present singly, and also in pairs for many of the missions. The Krivak poses a standoff ASW threat to the *Seawolf* via the SSN-14. It should be considered a light target, one hit for one kill, but it is also a very responsive ship to drive. Therefore, the Krivak will sometimes give a Mk 48 a run for its money.



Krivak II FFG

Signal Analyzer Signature: -||-----

Target Code: 12

Scenarios: 1, 3, 9, 10, 25, 27, 31

Speed: 30.6 kts

Weapons:

4/SS-N-14 Silex SSM

2/SA-N-4 systems

2/100-mm DP

2/RBU-6000 ASW RL

8/533-mm TT

Mines

Notes: The only difference between the two Krivaks is that this later model sports a more capable deck gun. Within the framework of *Seawolf*, the two units are tactically interchangeable.



Kynda CG

Signal Analyzer Signature: -||-----

Target Code: 13

Scenarios: 7, 17

Speed: 34 kts

Weapons:

8/SS-N-3B

1/SA-N-1

1/SAM system

4/76.2-mm DP

2/RBU-6000 ASW RL

6/533-mm TT

Notes: Kynda poses no ASW threat to the *Seawolf*, but can engage with cruise missiles if the *Seawolf* is on the surface. She is a moderate target that requires a minimum of two hits to kill, sometimes three. She is slower to accelerate than destroyers or frigates, but faster than larger ships such as the Moskva or the Kiev.



Mirka II FFL

Signal Analyzer Signature: |||-----

Target Code: 14

Scenarios: 10, 15, 21, 27

Speed: 34 kts

Weapons:

2/RBU-6000

5/400-mm TT

Notes: This light attack craft poses no threat to the *Seawolf*. She is one of the most maneuverable targets in the game, however, making quick kills difficult to come by.



Moskva CGH

Signal Analyzer Signature: -----|-----

Target Code: 15

Scenarios: 10, 12, 17, 23, 25, 31

Speed: 30 kts

Weapons:

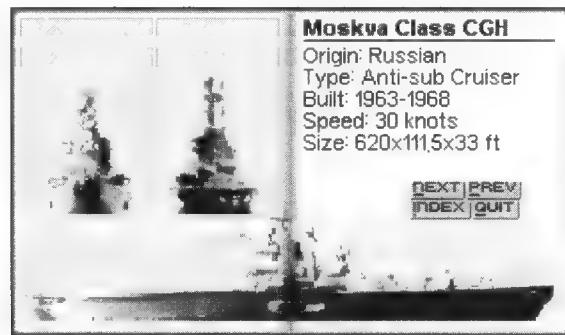
2/SA-N-3 SAM systems

4/57-mm AD-257 DP

1/SUW-N-1 ASW RL

2/RBU-6000 ASW RL

14 Hormone A/B/C helicopters



Notes: The Moskva behaves like other non-SSN-14 ships in every scenario except 23, during which she will conduct ASUW attacks against the Iowa battle group. Unfortunately, this is an improper use of the Moskva class, which does not have anti-ship cruise missile capability. Moskva never poses a threat to the *Seawolf*.

Nanuchka III FFL

Signal Analyzer Signature: |---|-----

Target Code: 16

Scenarios: 10, 17, 21, 25

Speed: 32 kts

Weapons:

6/SS-N-9 Siren SSM

1/SA-N-4 system

1/76.2-mm AK-176 DP

1/30-mm AK-630 Gatling AA

Notes: Nanuchka can only attack the *Seawolf* on the surface. She is a highly responsive, evasive target once engaged.



Nanuchka III Class FFL

Origin: Russian
Type: Missile Frigate
Built: 1969-1985
Speed: 35 knots
Size: 195x43x8.5 ft

[NEXT](#) [PREV](#)
[INDEX](#) [QUIT](#)

Sayany Salvage/Rescue

Signal Analyzer Signature: ||--|-----

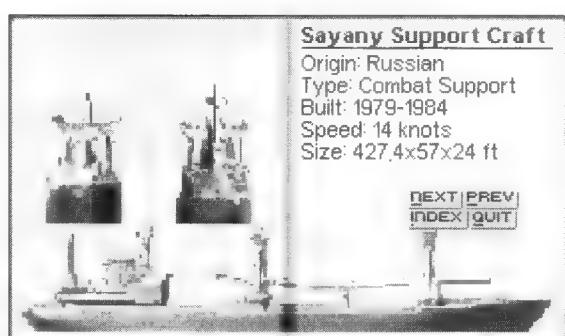
Target Code: 18

Scenarios: Many

Speed: 15.4 kts

Weapons: none

Notes: Free tonnage for the taking.



Sayany Support Craft

Origin: Russian
Type: Combat Support
Built: 1979-1984
Speed: 14 knots
Size: 427.4x57x24 ft

[NEXT](#) [PREV](#)
[INDEX](#) [QUIT](#)

Slava CG

Signal Analyzer Signature: --||-----

Target Code: 19

Scenarios: 7, 9, 17, 23, 25, 28

Speed: 34 kts

Weapons:

16/SS-N-12 Sandbox SSM

8/SA-N-6 vertical-launch SAM groups

2/SA-N-4 SAM syst.

2/130-mm 70 cal. DP

6/30-mm AK-630 Gatling AA

10/533-mm TT



Slava Class CG

Origin: Russian
Type: Missile Cruiser
Built: 1976-1987
Speed: 33 knots
Size: 613.4x66x25 ft

[NEXT](#) [PREV](#)
[INDEX](#) [QUIT](#)

2/RBU-6000 ASW RL

1/Hormone B helicopter

Notes: Slava does not pose a threat to *Seawolf*, but in missions 9, 23 and 28, her very deadly cruise missile inventory can impact the *Seawolf's* ability to complete the mission. As such, Slava should be considered a high priority target. She cannot maneuver to evade easily and is a moderate target. Usually, two torpedoes will get the job done.

Sovremenny DD

Signal Analyzer Signature: 

Target Code: 20

Scenarios: 1, 3, 7, 9, 12, 15, 17, 23, 27, 28, 31

Speed: 34 kts

Weapons:

8/SS-N-22 Sunburn SSM

2/SA-N-7 SAM systems

4/130-mm TT

2/RBU-1000 ASW RL

Mines

1/Hormone B helicopter

Notes: The Sovremenny is the platform you will encounter most frequently when playing the *Seawolf*. In the first mission, he exists solely as a target. In Mission 9, the Sovremenny is using his SSN-22 cruise missiles in an anti-surface mode. In all other missions, the Sovremenny's mission in life is to locate the *Seawolf* and rain RBU depth charges down on your position. He will use active sonar to acquire the *Seawolf* and, once he is tracking, will attempt to maintain contact until one of the two of you is dead. Sovremennys are fast and maneuverable, so to avoid contact the *Seawolf* should try to use depth and layer separation, instead of speed.

Adams DDG

Signal Analyzer Signature: 

Target Code: 21

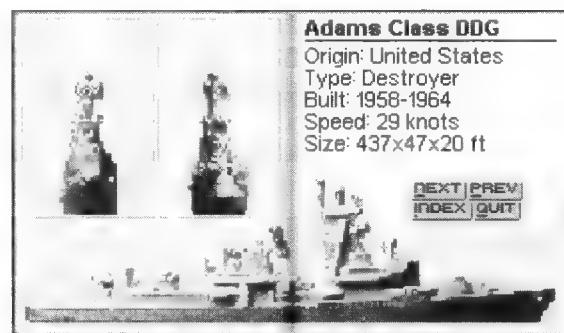
Scenarios: 4, 18, 32

Speed: 31.5 kts

Weapons:

1/Mk 11 twin missile launcher or,
beginning with DDG 15,

1/Mk 13 single launcher



2/127-mm MK 42 DP
 4/12.7-mm mg
 1/Mk 112 ASROC RL
 6/324-mm Mk 32 ASW TT

Notes: In scenario 18, the Adams class DDG will avoid contact and run if attacked. In scenarios 4 and 32, the unit will attempt to locate and destroy enemy submarines, potentially assisting the *Seawolf* in the accomplishment of mission objectives. The AI routine that governs this action is virtually identical to that used by the Sovremenny.

Garcia FF

Signal Analyzer Signature: |||:-|-----

Target Code: 22

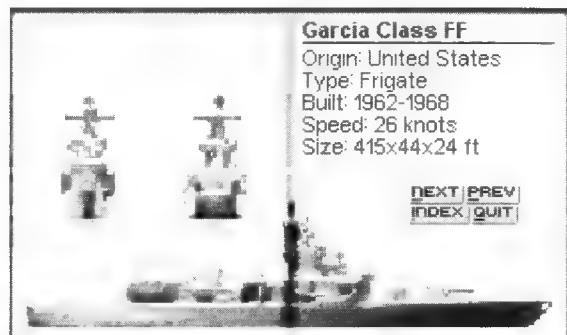
Scenarios: 2, 20, 32

Speed: 22 kts

Weapons:

2/20-mm Mk 15 CIWS AA
 2/20-mm Mk 67 AA
 6/12.7-mm mg

Notes: The Garcia does not contribute in any of the missions in which she appears. This antiquated platform will either adhere to her predesignated waypoints, as in scenario 2, or run at the first sign of danger.



Iowa BB

Signal Analyzer Signature: |--||-----

Target Code: 24

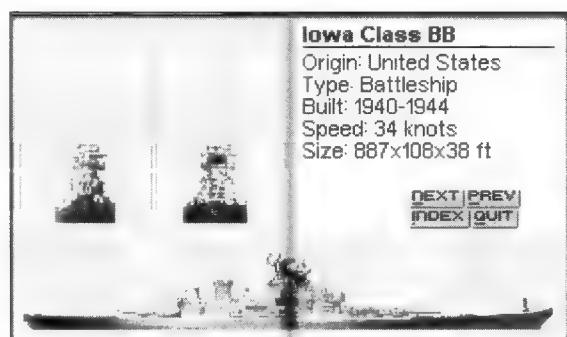
Scenarios: 2, 23

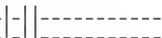
Speed: 33+ kts

Weapons:

32/Tomahawk
 16/Harpoon
 9/406-mm Model 1936
 12/127-mm Mk 12 Mod. 1 DP
 4/20-mm Mk 15 Mod. 0
 CIWS Gatling AA
 8/12.78-mm mg

Notes: The Iowa is pure window dressing in scenario 2. In scenario 23, however, she will prove to be a credible ASUW threat to the Soviet task force, aiding the *Seawolf* immensely.



Kidd DDGSignal Analyzer Signature: 

Target Code: 25

Scenarios: 18, 20, 23

Speed: 30+ kts

Weapons:

1/Mk 26 Mod. 3 and 1/Mk 26 Mod. 4

Launcher

8/Harpoon SSM

2/127-mm Mk 45 DP

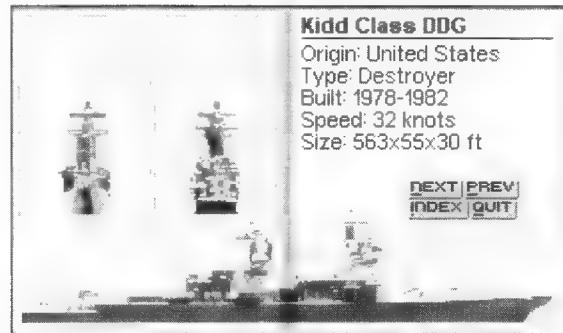
2/20-mm Mk 15 CIWS AA

4/12.7-mm mg

6/324-mm Mk 32 ASW TT

1/SH-2F LAMPS-I ASW helicopter

Notes: In scenario 18, the Kidd will actively search for enemy submarines and prosecute them with depth charges. Ignore the fact that Kidds don't carry any such weapons, and accept their assistance anyway. The routine that governs their behavior is, again, a mirror image of the Sovremenny's logic. In the other two missions, the Kidd will flee once attacked (provided she survives).

**Knox FF**Signal Analyzer Signature: 

Target Code: 26

Scenarios: 2, 18, 22, 23, 32

Speed: 27+ kts

Weapons:

4/Harpoon SSM

1/127-mm Mk 42 DP

1/20-mm Mk 15 CIWS

1/Mk 116 ASROC system

4/324-mm Mk 32 fixed ASW TT

1/SH-2F LAMPS-I ASW helicopter



Notes: Despite a long record of success as an ASW asset, the Knox never contributes in any of the missions in which she appears. Tactical options are to maintain course and speed or flee once attacked.

Nimitz CVN

Signal Analyzer Signature: :|||:-----

Target Code: 28

Scenarios: 32

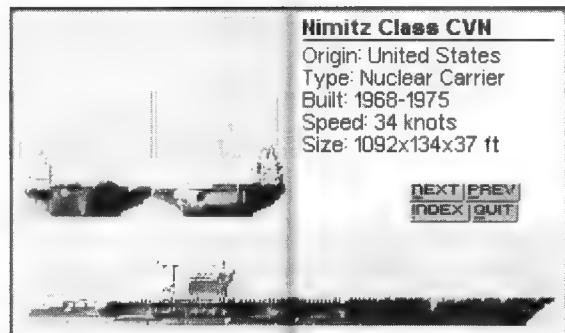
Speed: 30+ kts

Weapons:

3/Mk 29 launchers for Sea Sparrow

3/20-mm Mk 15 CIWS

Notes: The Nimitz is nothing more than window dressing for the next-to-last mission. She does look good in the periscope, though, provided you can find the time to take a peek at her.

**Oliver Hazard Perry FFGH**

Signal Analyzer Signature: :|||:-----

Target Code: 29

Scenarios: 4, 20

Speed: 29 kts

Weapons:

1/Mk 13 Mod. 4 launcher

1/76-mm Mk 75 DP

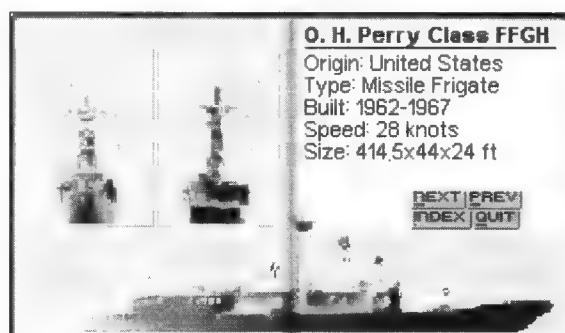
1/20-mm Mk 15 CIWS

2/12.7-mm mg

6/324-mm ASW TT

1/SH-2F LAMPS-I ASW helicopter

Notes: Oliver Hazard Perry FFGs are primarily short-range shooters for the conduct of AAW. They have little indigenous ASW capability, so they do not contribute in the scenarios in which they appear.

**Sacramento AOE**

Signal Analyzer Signature: ||||:-----

Target Code: 30

Scenarios: Many

Speed: 26 kts

Weapons:

1/Mk 29 launcher for Sea Sparrow

2/20-mm Mk 15 CIWS

4/12.7-mm mg



2/UH-46 helicopters

Notes: Sacramento class AOE ships are critical assets that the *Seawolf* must protect in many missions.

Spruance DD

Signal Analyzer Signature: -|||-----

Target Code: 31

Scenarios: 4, 22, 32

Speed: 32.5 kts

Weapons:

1/Mk 41 VLS group

1/Mk 29 launcher

2/127-mm Mk 45 DP

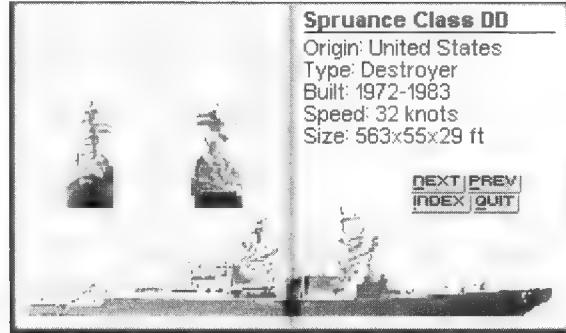
2/20-mm Mk 15 CIWS

4/12.7-mm mg

1/Mk 112 ASROC ASW RL

6/324-mm Mk 32 Mod. 5 ASW TT

1/SH-2F LAMPS-I or SH-60B LAMPS-III ASW helicopter



Notes: Spruance class destroyers are the most capable ASW surface ships in the current order of battle. They will contribute to the location and destruction of enemy submarines in the scenarios listed, making them a welcome addition to the weapons mix. Spruance DDs are controlled by an AI routine similar to that of the Sovremenny.

Ticonderoga DDG

Signal Analyzer Signature: -|---|-----

Target Code: 33

Scenarios: 18, 23

Speed: 30+ kts

Weapons:

2/Mk 26 Mod. 1 launchers

8/Harpoon SSM

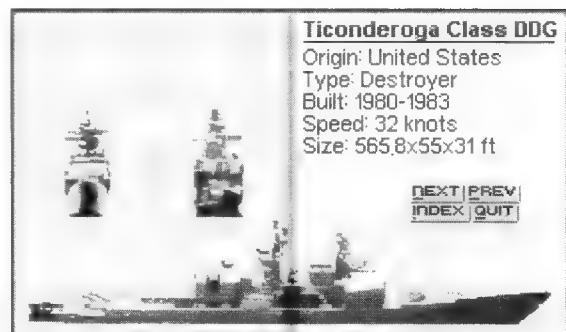
2/127-mm Mk 45 DP

2/20-mm Mk 15 CIWS AA

4/12.7-mm mg

6/324-mm Mk 32 ASW TT

1 or 2/SH 60B LAMPS-III ASW helicopters



Notes: The Ticonderoga and subsequent ships in her class are cruisers, although they are improperly labeled as destroyers in *Seawolf*. The

Seawolf also assigns incorrect tactics to these AAW warships, sending them on the same “depth charge” runs as the Spruance class DD. Nevertheless, any “shooter” is better than no “shooter,” and this platform is capable of helping the *Seawolf* to achieve the mission objectives.

Virginia CGN

Signal Analyzer Signature: ||---|-----

Target Code: 34

Scenarios: 32

Speed: 30+ kts

Weapons:

8/Tomahawk SSM

8/Harpoon SSM

2/Mk 26 launchers

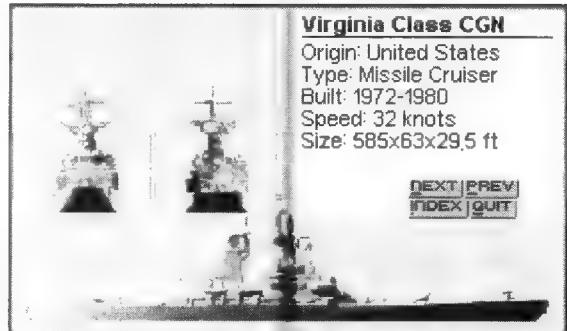
2/127-mm Mk 45 DP

2/20-mm Mk 15 CIWS Gatling AA

4/12.7-mm mg

6/324-mm Mk 32 ASW TT

Notes: Another late-game piece of fluff like the Nimitz. The Virginia CGN serves no purpose other than to provide a target for the marauding Soviet submarines in scenario 32.



Amazon FFG

Signal Analyzer Signature: --|---|-----

Target Code: 35

Scenarios: 9

Speed: 32 kts

Weapons: 4/MM 38 Exocet

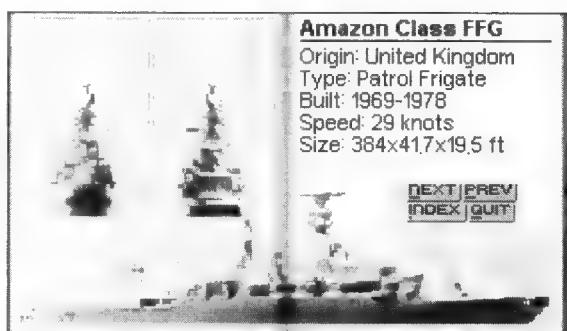
1/ Sea Cat GWS.24 system

1/114-mm Mk 8 DP

4/20-mm Mk 4 AA

1/Lynx helicopter

Notes: Unit will run from the engagement.



Edinburgh DDH

Signal Analyzer Signature: -||--|-----

Target Code: 37

Scenarios: 9

Speed: 29.5 kts

Weapons:

1/Sea Dart GWS.30 Syst.

1/114-mm Mk 8 DP

2/20-mm Mk 15 gatling CIWS

2/20-mm GAM-BO1 AA

2/20-mm Oerlikon

6/324-mm STWS.1 ASW TT

1/Lynx helicopter

Notes: Unit will run from the engagement.

**Edinburgh Class DDH**

Origin: United Kingdom

Type: Destroyer

Built: 1979-1988

Speed: 28 knots

Size: 481x48.5x21 ft

The Merchants

Since merchants do not pose a threat to the *Seawolf* or any other ships in the game, it is not necessary to go into any detail about their capabilities and limitations. All that you will ever need to do is be able to recognize these units visually and by their sound signatures. The required data is as follows:

**Supply Ship Type 1**

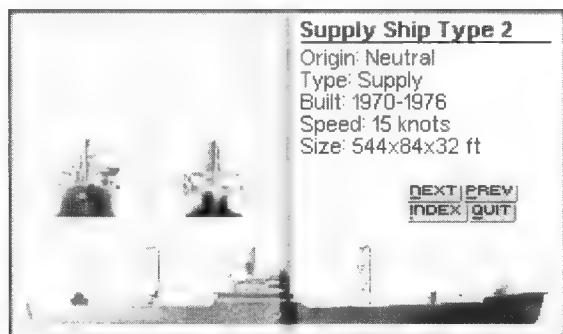
Origin: Neutral

Type: Supply

Built: 1975-1980

Speed: 15 knots

Size: 489x66x27 ft

**Supply Ship Type 2**

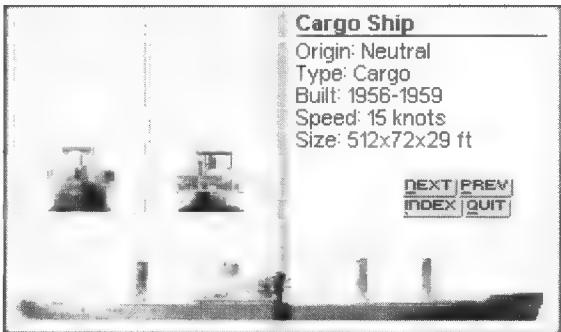
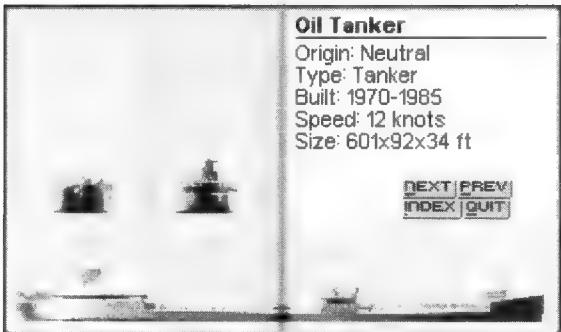
Origin: Neutral

Type: Supply

Built: 1970-1976

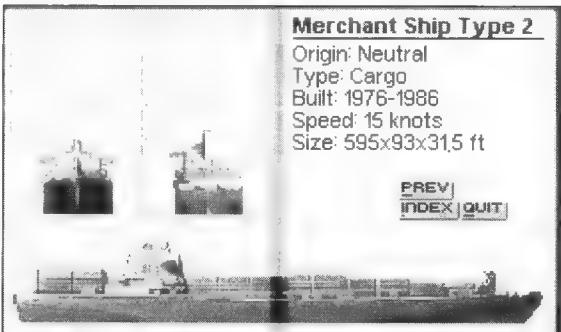
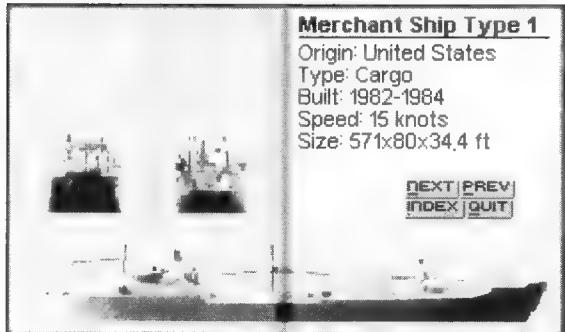
Speed: 15 knots

Size: 544x84x32 ft



|||---

---|||---



|||---

---|||---



SUBMARINE OPERATING DOCTRINE

The artificial intelligence (AI) routines that govern the behavior of the enemy submarines form the true heart of the *Seawolf* model. As mentioned previously, these routines can vary considerably from platform to platform, and even from one mission to the next for a given platform. To apply the proper tactics for a given situation, it is important for you to understand the differences between the various AI models and know to which model is active at any given time.

To facilitate this understanding, these routines will be categorized under easily recognizable titles in the next few pages. Following that, in the discussion of individual submarine classes, the titles will be used to indicate which AI model is active for the specific submarine in each mis-

sion. This will not only allow you to anticipate enemy response based on capabilities, but will also help you prioritize the threat level of each submarine you encounter. As you might expect, the higher the level of AI governing the platform, the more dangerous he becomes.

Novice SSBN

Boomers with this rating will patrol their preset waypoints without changing depth or speed. If attacked, the submarine will change course 90 degrees and dive. If it survives the attack, it will return to the preset waypoint pattern. The submarine will not react to the presence of other submarines or ships.

Veteran SSBN

While on patrol, these boomers will not deviate from their waypoints or change depth unless they become aware of the presence of an enemy submarine, at which point they will change depth and speed to break contact. If attacked, the submarine will attempt to evade by changing course, depth and speed, as well as using noisemakers when the torpedo is in close proximity. These subs will not react to surface ships.

Elite SSBN

These submarines also adhere to the preset waypoints until alerted to the presence of the *Seawolf*, or another enemy submarine. In this instance, they will attempt to break contact as above, but will also fire torpedoes at the approaching submarine. Their torpedo reaction routine is identical to that of Veteran SSBNs and they will also ignore surface ships.

Novice ASUW

These attack boats will only patrol their preset waypoints, but will fire torpedoes at any surface ship that comes within range. They will actively attempt to evade approaching submarines by changing depth and speed, as well as firing torpedoes. If attacked, these submarines will change course 90 degrees from the direction of the inbound shot and dive. If it survives the shot, it will return to the preset waypoints.

Veteran ASUW

This submarine also adheres to its waypoints if not molested, but will actively search for, and engage, surface targets with greater skill than its predecessor. It reacts to enemy submarines in exactly the same was as do Novice ASUW submarines, and follows a similar torpedo evasion pattern, but will use noisemakers to force inbound shots off target.

Elite ASUW

This submarine behaves exactly like a Veteran ASUW boat, except that it uses missiles as the weapon of choice to prosecute surface targets. This means that it will often engage these contacts at considerably greater ranges as well.

Novice ASW

This submarine stays on her waypoints, but performs an extensive ASW search for opposing submarines. When a contact of interest is found, she will break off the pattern to prosecute. If the ASW search locates the *Seawolf* or any other enemy, she will fire torpedoes when within range. If attacked, this submarine will change course, speed, and depth to evade, and will use noisemakers to decoy the torpedoes when they are close aboard. This submarine does not react to the presence of surface shipping.

Veteran ASW

This attack boat also performs extensive ASW search and prosecution efforts, deviating from her patrol pattern when necessary, but may fire standoff weapons such as SSN-15s in addition to standard torpedoes. Her evasion pattern is also identical to that of a Novice ASW submarine, but he will fire torpedoes down the reciprocal bearing of the inbound shot as well. Once again, this boat does not react to surface ships.

Elite ASW

This submarine stays on its waypoints, but performs extensive ASW search routines for opposing submarines. If none are detected, when she reaches the final waypoint she runs the pattern in reverse, creating a tight

patrol zone. This submarine reacts to inbound torpedoes exactly like the Veteran ASW boat. When alerted to the presence of enemy submarines, this boat will attempt to maintain contact, but will not chase the contact to force the prosecution. Rather, she will wait for the *Seawolf* to get close enough to her before attacking. In addition, if approached by surface shipping, this submarine will fire torpedoes in self-defense.

Individual Submarine Classes

Cruise Missile Submarines

Charlie SSGN

Signal Analyzer Signature: -----|-----

Target Code: 50

Scenarios: 5, 12

Speed: 24 kts

Weapons:

8/SS-N-7

6/533-mm TT fwd

Notes: Charlie has a novice ASUW crew in scenario 5, and a veteran ASW crew in scenario 12.

Echo II SSGN

Signal Analyzer Signature: -----|-----

Target Code: 51

Scenarios: 5, 13

Speed: 20/23 kts

Weapons:

8/SS-N-3A/C or SS-N-12

6/533-mm TT fwd

4/400-mm TT aft

Notes: Novice ASUW for scenario 5, Veteran ASUW for scenario 13.

Ballistic Missile Submarines

Yankee SSBN

Signal Analyzer Signature: -----||-----

Target Code: 52

Scenarios: 4

Speed: 27 kts

Weapons:

16/SS-N-6

6/533-mm TT (18 torpedoes)

Notes: Novice SSBN

Delta I SSBN

Signal Analyzer Signature: -----|-----

Target Code: 53

Scenarios: 4, 8

Speed: 25 kts

Weapons:

12/SS-N-8

6/533-mm TT fwd (18 torpedoes)

Notes: Veteran SSBN

Delta II SSBN

Signal Analyzer Signature: -----|------

Target Code: 54

Scenarios: 4, 8

Speed: 24 kts

Weapons:

16/SS-N-8

6/533-mm TT fwd (18 torpedoes)

Notes: Novice ASW crew for scenario 4, Veteran SSBN for scenario 8.

Delta III SSBN

Signal Analyzer Signature: -----||-----

Target Code: 55

Scenarios: 6, 8, 33

Speed: 24 kts

Weapons:

16/SS-N-8

6/533-mm TT fwd (18/SS-N-15 torpedoes)

Notes: Veteran SSBN for 6, Novice ASW for 8, Elite SSBN for 33.

Delta IV

Signal Analyzer Signature: -----||-----

Target Code: 56

Scenarios: 30

Speed: 24 kts

Weapons:

16/SS-NX-23 ballistic missiles

6/533-mm or 650-mm TT (bow)

Notes: Elite SSBN

Typhoon SSBN

Signal Analyzer Signature: -----|-----

Target Code: 57

Scenarios: 3, 8, 33

Speed: 25 kts

Weapons:

20/SS-N-20 ballistic missiles

est. 6/533-mm or 650-mm TT (torpedoes, SS-N-15/16)

Notes: In scenario three, there are two Typhoons. One will have a Novice SSBN crew; the other, a Veteran SSBN crew. In scenario 8, the Typhoon will behave like the Novice ASW model. In the final scenario, all Typhoons will have Elite SSBN crews.

Benjamin Franklin SSBN

Signal Analyzer Signature: -----|-|-----

Target Code: 59

Scenarios: 32

Speed: 15/25 kts

Weapons:

16/Poseidon or Trident I missiles

4/533-mm TT (fwd)

Notes: No AI model. Unit follows preset waypoints as a target for the Soviets and does not contribute.

Ohio Class SSBN

Signal Analyzer Signature: -----|||-----

Target Code: 60

Scenarios: 30, 32

Speed: 20+ kts

Weapons:

24/Trident C-4 missiles

4/533-mm Mk 68 TT

Notes: No AI model. Unit follows preset waypoints as a target for the Soviets and does not contribute.

Nuclear Attack Subs

Please note that although the SSN-15 is not listed as a specific weapon for the given classes, it may be used by any of these classes (real-world or not) whenever they are governed by the Veteran ASW routine.

November SSN

Signal Analyzer Signature: -----||-----

Target Code: 61

Scenarios: 6, 11, 13, 16, 20, 22

Speed: 26+ kts

Weapons: 6/533-mm TT

Notes: Novice SSBN for Mission 6. Veteran ASUW for Mission 20. Veteran ASW crews for all other scenarios.

Victor I-III

Signal Analyzer Signature: -----|-||----- -----|||----- -----|||-----

Target Codes: 62–64, respectively.

Scenarios: 6, 8, 10, 11, 13, 14, 16, 17, 19, 20, 21

Speed: 30 kts

Weapons: 6/533-mm TT

Notes: The three classes of Victor are used interchangeably in *Seawolf*, so you need not get caught up in the mechanics of distinguishing one from another. In Missions 6 and 10, the Victors will have Novice ASW crews. In Mission 19, she has a Veteran ASUW crew. In Mission 20, she has an Elite ASUW crew. In all other missions, the Victors will behave in accordance with the Veteran ASW model.

Alfa SSN

Signal Analyzer Signature: -----|-----

Target Code: 65

Scenarios: 19, 23, 27–32

Speed: 43–45 kts

Weapons: 6/533-mm TT

Notes: In Mission 19, the Alfa makes her only appearance as an easy target with a Novice ASW crew. In Missions 23 and 31, she is outfitted with a Veteran ASW crew. In Missions 27, 28, and 30, she has an Elite ASW crew. Mission 29 has two Alfacs, of which one is Veteran and the other is Elite. Mission 32 also features two Alfacs, of which one is Elite ASUW and the other Elite ASW.

Akula SSN

Signal Analyzer Signature: -----|---|-----

Target Code: 66

Scenarios: 28, 30–33

Speed: 25/35 kts

Weapons: 6/650-mm and/or 533-mm TT

Notes: In missions 28, 31, and 32, the Akulas carry Elite ASW crews. In Missions 30 and 33, the Akulas have a mixture of Veteran and Elite ASW crews.

Han SSN

Signal Analyzer Signature: -----|---|-----

Target Code: 67

Scenarios: 24, 26

Speed: 25 kts

Weapons:

1/12.7-mm mg

2/7.62-mm mg

Notes: Veteran ASW

Trafalgar SSN

Signal Analyzer Signature: -----||---|-----

Target Code: 68

Scenarios: 13

Speed: 30 kts

Weapons:

5/533-mm TT fwd

8/UGM-84 Block 1B/C Sub-Harpoon

Notes: Veteran ASW. May assist the *Seawolf* in accomplishing mission objectives.

Rubis SNA

Signal Analyzer Signature: -----|-----

Target Code: 69

Scenarios: 13

Speed: 25 kts

Weapons: 4/533-mm TT fwd

Notes: No AI model. Submarine will run from contact and will not contribute to the mission.

Permit SSN

Signal Analyzer Signature: -----|-----|-----

Target Code: 70

Scenarios: 6

Speed: 15/30 kts

Weapons: 4/533-mm TT

Notes: Veteran ASW. May assist the *Seawolf* in accomplishing mission objectives.

Sturgeon SSN

Signal Analyzer Signature: -----||-----

Target Code: 71

Scenarios: 30

Speed: 15/30 kts

Weapons: 4/533-mm TT

Notes: No AI model. Sub exists as a target for the Soviets in this mission.

Diesel Subs**Kilo SS**

Signal Analyzer Signature: -----|---|-----

Target Code: 74

Scenarios: 6, 14, 16, 22

Speed: 12/20 kts

Weapons: 6/533-mm TT

Notes: Novice ASUW for mission 6. Veteran ASUW for mission 14.

Novice ASW for mission 16. Mission 22 features four Kilos, of which two are Veteran ASUW and the others are Veteran ASW.

Foxtrot SS

Signal Analyzer Signature: -----|---||-----

Target Code: 75

Scenarios: 18

Speed: 16/15.5 kts

Weapons: 10/533-mm TT

Notes: Four Foxtrots are present in this mission. Two have Veteran ASUW crews, the others Veteran ASW crews.

The Helicopters

Helicopters play a supporting role in a number of the *Seawolf* missions, more so for the Soviets than for the Allies. When these units are present in a given scenario, they will attempt to locate submarines using a dipping sonar. Once active contact is held, the helicopter quickly retrieves the dipping sonar and commences an attack run. The lightweight air-dropped torpedoes are less deadly than their shipboard counterparts, but they can be dropped with pinpoint accuracy. When this weapon hits the water, literally right on top of your head, it is almost impossible to evade. As such, the only effective strategy against enemy helicopters is to avoid detection altogether.

Figure 4-2 Dipping sonars are the primary method used by helicopters to find submarines.

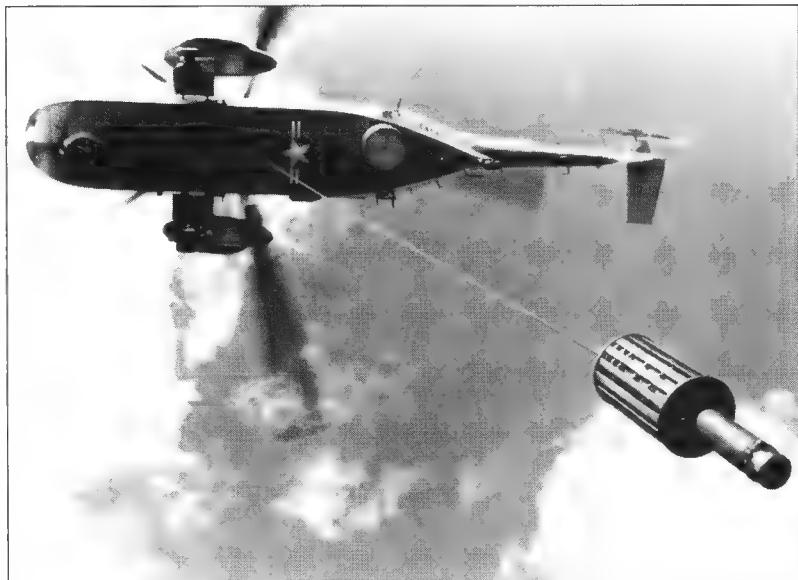


Figure 4-3 Once a helicopter has located the *Seawolf*, he can literally drop a torpedo right on top of your head. These shots are almost impossible to evade.



The Missiles

To round out the discussion of platform capabilities, some specific data for weapons types seem to be in order as well.

Missile Name: Tomahawk (anti-ship cruise missile)

Range: 250+ nm

Altitude: Cruise missile

Speed: Approximately 699 kts

Guidance: Inertial anti-radar and active radar

Country: U.S.

Comments: During initial and mid-course phases, inertial guidance is used. During terminal phase, active radar or anti-radar guidance is used. Tomahawk can be launched from submarines, surface ships, ground launcher sites, and aircraft.

Missile Name: Harpoon (RGM-84A)

Range: Over 50 mn

Altitude: Approximately 10–10,000 ft

Speed: High subsonic 650 kts

Guidance: Preprogrammed attitude reference and radar altimeter during the cruise phase. Active radar homing during terminal phase.

Country: U.S. and various others

Comments: The radar homer has ECCM capability in the terminal phase. The RGM-84A version can be launched from submarines or surface ships. The airborne version is the AGM-84.

Missile Name: SS-N-3A/B Shaddock

Range: 250 nm

Altitude: Unknown

Speed: Trans-sonic 800 kts

Guidance: Radar command to inertial

Country: CIS

Comments: Probable associated radar is Scoop Pair. Fitted on major combatants such as the Kynda and Kresta I.

Missile Name: SS-N-3C Shaddock

Range: 400 nm

Altitude: Unknown

Speed: Trans-sonic 800 kts

Guidance: Radar command to inertial

Country: CIS

Comments: Probable associated radar is Scoop Pair. The SS-N-3C was fitted on the Echo 1 SSGNs.

Missile Name: SS-N-7 Star Bright

Range: 35 nm

Altitude: Unknown

Speed: 577 kts

Guidance: Infrared inertial and radar homer

Country: CIS

Comments: Located on the Charlie 1 class SSGNs.

Missile Name: SS-N-9 Siren

Range: 60 nm

Altitude: Unknown

Speed: Unknown

Guidance: Infrared inertial and radar homer

Country: CIS

Comments: Reported to be on Charlie 2 and Papa class submarines, Soviet Nanuchka Corvettes, and Sarancha hydrofoils.

Missile Name: SS-N-12 SANDBOX

Range: 300 nm

Altitude: Unknown

Speed: Reported to be Mach 2.5

Guidance: Radio command, active radar, or anti-radar homing

Country: CIS

Comments: Found on the Kiev carrier, SLAVA cruiser, Mod Echo II and Mod Juliet submarines. Probable associated radars are the Trap Door on the Kiev and the Front Door/Piece on the Slava and the submarines.

Missile Name: SS-N-14 Silex

Range: 30 nm

Altitude: Unknown

Speed: Reported to be Mach .95

Guidance: Command radio and inertial

Country: CIS

Comments: Located on Kara, Kirov (1 ship) and Kresta II cruisers, Udaloy destroyers, and Krivak I and II frigates. Probable associated radar: Eye Bowl or Headlights radars.

Missile Name: SS-N-15 Starfish (ASW weapons similar to the US Navy SUBROC)

Range: 24 nm

Altitude: Unknown

Speed: Unknown

Guidance: Inertial

Country: CIS

Comments: Located on various SSNs and SSGNs.

Missile Name: S-N-16 Stallion (ASW weapons similar to the U.S. Navy SUBROC)

Range: 54nm

Altitude: Unknown

Speed: Unknown

Guidance: Inertial to torpedo release point, torpedo homing.

Country: CIS

Comments: Located on Akula, Sierra, Oscar, Victor II/III, and possibly other SSNs.

Missile Name: SS-N-19 Shipwreck (anti-ship cruise missile)

Range: 300 nm

Altitude: Unknown

Speed: 1,602.5 kts

Guidance: Inertial with anti-radar homing.

Country: CIS

Comments: Located on the Admiral Kuznetsov carrier, Kirov cruiser, and Oscar submarines. Improved version of the SS-N-12 Sandbox.

Missile Name: SS-N-22 Sunburn (anti-ship missile)

Range: Approximately 50 nm

Altitude: Unknown

Speed: Estimated Mach 2.5

Guidance: Mid-course guidance with active radar homing.

Country: CIS

Comments: Located on the Sovremenny destroyers, Tarantul II, Dergrash class corvettes, and the Utka Weg vehicle.

Torpedoes

Torpedo Name: USSR 533-mm Torpedo

Range: 2–10 miles, 1.7–8.7 nm

Depth: Unknown

Speed: 28/45 kts

Guidance: Both preset and acoustic guidance

Country: CIS

Comments: This torpedo is a standard on most Soviet vessels. The 533-mm torpedo has an export version. Warhead maybe nuclear or conventional.

Torpedo Name: USSR 400-mm Torpedo (anti-submarine weapon)

Range: Unknown

Depth: Unknown

Speed: Unknown

Guidance: Apparently acoustic homing

Country: CIS

Comments: Used in small ASW ships and aircraft.

Torpedo Name: Tigerfish Mk 24

Range: Approximately 11 nm

Depth: Unknown

Speed: Reported to be 50 kts

Guidance: Wire-guided acoustic homing (active or passive)

Country: United Kingdom and various others

Comments: Designed for submarine launch against submarine and surface targets.

Torpedo Name: Mk 32

Range: 4.2 nm

Depth: 20 ft

Speed: 12 kts

Guidance: Acoustic homing

Country: U.S. and various others

Comments: Max. acoustic range is believed to be 612 yds; 42 kg high-explosive warhead.

Torpedo Name: Mk 37 Mod 0 and 3

Range: Unknown

Depth: 885 ft

Speed: 24 kts

Guidance: Sonar active and passive

Country: U.S. export only

Comments: 150 kg high-explosive warhead.

Torpedo Name: Mk 44

Range: 2.7 nm

Depth: 984 ft

Speed: Reported to be 30 kts

Guidance: Active acoustic homing

Country: U.S. and others

Comments: Replaced by the Mk 46 in the U.S. Navy but still active in other navies.

Torpedo Name: Mk 46

Range: 12,000 yds

Depth: 450 m

Speed: 40 kts

Guidance: Active or passive acoustic homing

Country: U.S. and various others

Comments: It can be launched from surface vessels, fixed-wing aircraft, or helicopters and can be carried by the ASROC rocket.

Torpedo Name: Mk 48

Range: Greater than 20 nm at low-speed setting.

Depth: 760 meters

Speed: 40 kts long-range/55 kts high-speed

Guidance: Wire guidance or self-contained passive/active acoustic homing

Country: U.S.

Comments: The Mk 48 is the weapon of choice for discerning *Seawolf* Skippers.

Torpedo Name: Mk 50 (Sea Lance)

Range: Greater than 10 nm

Depth: 600 + m

Speed: 40 + kts

Guidance: Passive/active acoustic homing

Country: USA

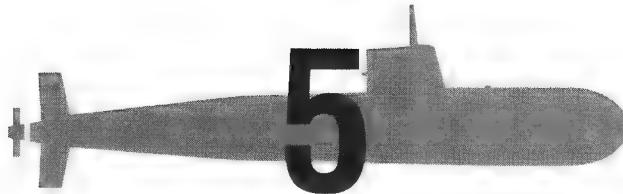
Comments: None.

SUMMARY

At first glance, a lot of the data presented in this chapter may seem overwhelming. Don't let it be. *Seawolf* is a highly enjoyable game at several different levels. Those who want to leave the minutia to the bean counters can do so. Meanwhile, the die-hard grognards who thrive on detail can wallow to their heart's content in the waterfall display, or endlessly explore the specific nuances of the weapons modeling.

The point is this: The information is here if you need it, and you can do as little or as much with it as you desire—whatever gets you back to enjoying the game. After all, that is where you wanted to be in the first place, right?





The Calm Before the Storm

JCS THREAT BRIEFING



Gentlemen, as you all know, the current political situation is very tense. Although the diplomatic corps is making every effort to defuse the situation, we must prepare for the worst eventuality: open hostilities between the NATO and Soviet forces. Given recent cutbacks in defense expenditures, our task will be more difficult than ever before. The current force structure allows a very thin margin between victory and defeat. Should this conflict escalate into a full-scale shooting war, excessive losses on our side will severely limit the diplomatic options available to the National Command Authority. That, gentlemen, is a development we cannot allow.

Effective immediately, all war-ready assets of the Navy will sail to their forward-deployed positions. Because ground combat is not an attractive option for either side at this stage of the game, it is likely that the first shots will be fired at sea. When this happens, we must be in a position to strike swiftly and decisively to avoid a prolonged conflict.

Wargame studies conducted at the Naval War College in Newport, Rhode Island, have repeatedly shown that the balance of power will swing swiftly to one end of the spectrum or the other in this scenario. Therefore, we cannot expect that industry will have suf-

ficient time to gear up and resupply our losses. This means that we must make do with what we have, and jealously guard every asset as if it were our last.

One thing is certain; we cannot fight a war from this room. Now is the time for all of our commanding officers in the field to show what they're made of. We've certainly invested enough in them over the years to make them the best. Now it's payback time!

That is all.



MISSION ONE: IVAN MARCHES

Situation Report

A Russian task force has sailed from Severomorsk, escorting troop transports carrying 12,000 marines and soldiers to bolster pro-Castro forces in Cuba. Increasingly stern warnings from Washington have been ignored. The *Seawolf* is being sent on a reconnaissance mission to determine whether any missile submarines are secretly accompanying the group.

Intelligence Report

Satellite imagery has located the Soviet task force transiting through the merchant shipping channels off of Severomorsk. Group composition has been confirmed through HUMINT as follows:

- 1 Kiev class CV
- 1 Kirov class CGH
- 2 Sovremenny class DD
- 2 Krivak class FFG

In addition, two Typhoon class SSBNs were unaccounted for in the imagery of the last satellite pass over the Severomorsk harbor facility. So far, the surface group appears to be conducting a routine transit to rendezvous with its amphibious forces and proceed to the objective area. However, NSA sources suspect the boomers may be using the task force as to mask their sound signatures from SOSUS monitoring stations. If this

is the case, the Soviets stand a fair chance of putting two missile silos right in Florida's backyard. This would shorten the required reaction time for SAC's ballistic missile defenses to an unacceptable length. Consequently, the Typhoons must be located and tracked immediately, so that NSC can order prosecution at the moment it determines the current assessment of Soviet intentions to be valid.

Synopsis of Orders

The *Seawolf* is to proceed to the operating area and find the enemy task force. Use the advanced signal processing capability of the BSY-2 sonar suite to sort through the ambient noise generated by the task force and find those submarines. It is imperative that you avoid contact during this mission. The Soviets think they have the initiative, but if you conduct this mission precisely, we will have quietly taken it back. Finally, the *Seawolf* is not to initiate hostilities under any circumstances. If the *Seawolf* is detected and attacked, take whatever measures are necessary to defend her, but do not escalate the situation without just cause.

Rules of Engagement

Warning White, Weapons Tight. Hostile action is not expected. Return fire is authorized to save the *Seawolf*, if necessary, but Weapons Free is granted only against the firing platforms, and then as a last resort. Weapons Tight will remain in effect for all other contacts. Escalation must be avoided if at all possible.

Executive Officer's Comments

Captain, this mission ought to be a pure milk run. Stay slow, stay quiet, and let the towed array do its job. Chances are the Typhoons will be in the deep sound channel in proximity to the task force. Once we make contact with *Kiev* and her escorts, I recommend we come to a course that puts them dead on the bow and drop below the thermal layer to see what's cooking. Once we classify those boomers, a nice slow egress away from the task force should do it.

The Captain's Log

Mission time: 00:15:30

Ships destroyed: 0

Subs destroyed: 0

Torpedoes used: 0

Torpedoes hit: 0

Torpedoes evaded: 0

Torpedoes hit us: 0

Noisemakers used: 0

Active sonar: 0

Ident. right/wrong: 2/0

00:14:10 = Dille correctly identified Typhoon SSBN

00:15:06 = Dille correctly identified Typhoon SSBN

00:15:30 = logbook entry and status report:
mission successfully completed

Debrief and Lessons Learned

Gentlemen, I promise not to take up too much of your valuable time summarizing this very routine reconnaissance mission. Figure 5-1 shows the relative positions of the *Seawolf* and the Soviet task force shortly after first contact.

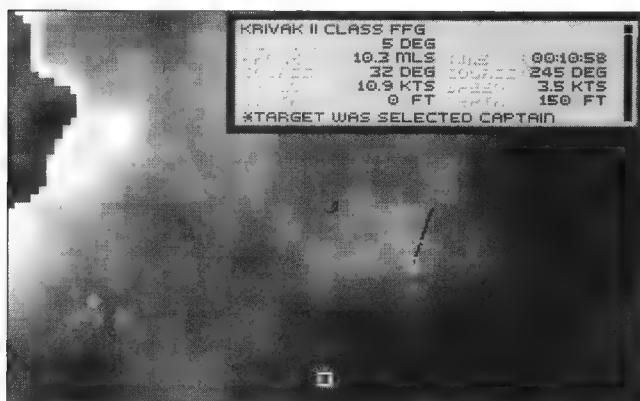


Figure 5-1 Soviet task force is located to the southwest.

This group was confirmed as the target of interest. Following the recommendation of the executive officer, the *Seawolf* dove to 500 feet and allowed the towed array time to stabilize. The sound signatures of the two Typhoon class SSBNs showed up as characteristic blue spokes on the BSY-2 Waterfall display almost immediately.

The sonar supervisor also played some heads-up ball. Since the *Seawolf* was allocated only a 30-minute window to identify the boomers, he chose not to wait for the automatic processing of the BSY-2 sonar suite. He broke out the JCS Identification Guide (see Chapter 4) and matched the linear sound signatures of our subsurface contacts to the baseline data of the Typhoon. For future reference, the Typhoon is classified as target type 57. Because of this young man's initiative, the *Seawolf* was able to complete her mission in half the allotted time.

Rear Admiral Grace was particularly pleased with the *Seawolf*'s first mission. I would like to share his comments with you (see Figure 5-4). Enjoy it while you can, gentlemen, because things may heat up very soon, and messages like this one could be hard to come by in the days ahead.

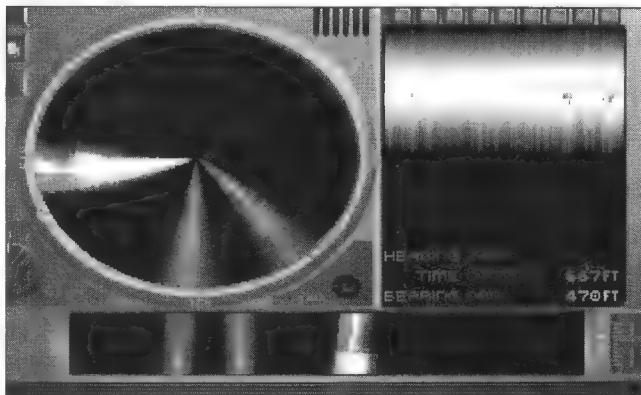


Figure 5-2 The Waterfall display can provide an indication of target depth, as well as bearing drift.

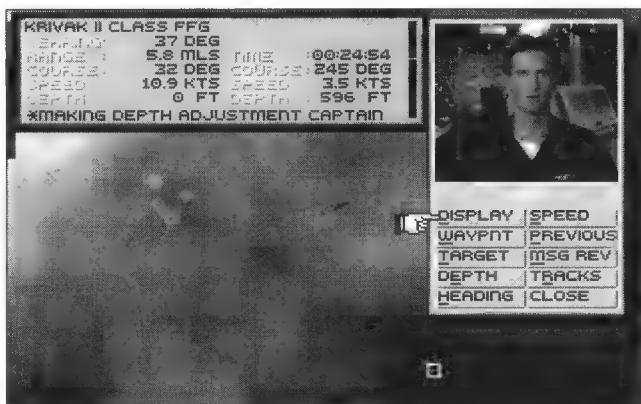


Figure 5-3 Seawolf holds contact on both Typhoon SSBNs.

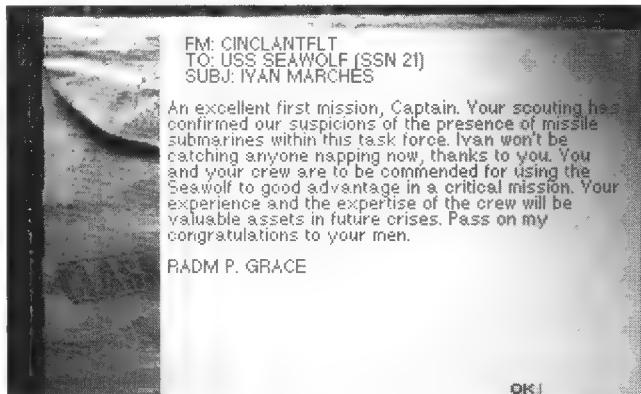


Figure 5-4 Keeping the boss happy is a good career move.



MISSION TWO: DUCKSHOOT

Situation Report

Because the Soviets have continued to ignore or postpone diplomatic overtures from the Secretary of State, the Commander in Chief has declared an immediate blockade of the entire Cuban coastline. The objective of the blockade is to prevent arms and provisions from reaching pro-Castro forces on the island.

Intelligence Report

Numerous merchant vessels are known to be en route to the harbor facility at Havana, Cuba. Although the registered manifests for these vessels indicate standard shipping cargoes, CIA sources have uncovered documents that reveal the presence of contraband specifically prohibited by the blockade. This information seems to be confirmed by Cuban military action as well. The U.S. naval base at Guantanamo Bay, Cuba, reports that five Koni class FFs of the Cuban coastal defense force have gotten under way, apparently with the intention of setting up a defensive screen for the arriving merchants when they cross into Cuban territorial waters.

Synopsis of Orders

The *Seawolf* will take station inside the 12-nautical-mile limit along the northern coastline of Cuba. Observe maritime activity and engage any contacts of interest at will. A U.S. task force, centered on the battleship *Iowa*, is escorting two Gunston Hall class LPDs to Guantanamo Bay to augment the marine security force at that facility. En route, the group will also be conducting maritime search and seizure operations of opportunity in support of the blockade. Be alert to their possible presence within your area of operations. The *Seawolf's* primary targets are the Koni frigates. Crew training is estimated to be poor, so the ASW threat from these assets is considered minimal. Designate the Konis hostile upon contact and engage. Secondary targets will be merchant ships that enter the 12-mile exclusion zone. Normal neutrality constraints do not exist. The presence of these ships in Cuban waters is a violation of the blockade and upgrades their threat designation to hostile upon contact.

Rules of Engagement

Warning Yellow, Weapons Free. Cuban forces are not expected to initiate hostilities, but you are. Because the possibility of friendly fire exists, you must positively identify all surface contacts before engaging them. Since the *Seawolf* is the only friendly submarine in the area, weapons are free against all subsurface contacts without prior identification.

Executive Officer's Comments

I'll tell you the truth, Captain, the crew is a little disappointed with this mission. They understood that the last mission was a test, a confidence-builder if you will, but getting two cakewalks in a row makes them feel like the brass hasn't started to trust them yet. Face it, the Konis are no threat to the *Seawolf*, and any old ragtag diesel boat can bust the keels of unarmed merchants all day long. Let's do this one with some style, Captain. Let's give the crew a chance to show what the *Seawolf* can really do. Then maybe next time we'll get some tasking that's worthy of our full attention.

We've got five warships and six merchants to neutralize. My recommendation is that we stay patient until we have all of them within our weapons envelope, then open up with everything we've got. We'll fire a Mk 48 at the closest Koni, then kill the other four with Harpoons and Tomahawks, even before the terminal seeker head of the Mk 48 locks on. With all the ASW screening units on the bottom, we could take our time with the merchants, but we won't. The *Seawolf* is going to go balls to the wall and take the rest of them as easily as one-two-three. You say the word, Captain, and this crew will live up to it. They're hot and ready to please.

The Captain's Log

Mission time: 01:13:00

Ships destroyed: 11

Subs destroyed: 0

Torpedoes used: 13

Torpedoes hit: 13

Torpedoes evaded: 0

Torpedoes hit us: 0

Noisemakers used: 0

Active sonar: 0

Ident. right/wrong: 0/0

00:38:48 = Dille fired a Mark 48 HS at Koni FF

00:39:26 = Dille fired a Tomahawk at Koni FF

00:39:46 = Koni FF was hit by Dille's Tomahawk

00:39:54 = Dille fired a Tomahawk at Koni FF

00:40:06 = Koni FF was destroyed by Dille

00:40:08 = Koni FF was hit by Dille's Mark 48 HS

00:40:14 = Koni FF was hit by Dille's Tomahawk

00:40:28 = Koni FF was destroyed by Dille

00:40:34 = Koni FF was destroyed by Dille

00:40:44 = Dille fired a Harpoon at Koni FF

00:41:04 = Koni FF was hit by Dille's Harpoon

00:41:18 = Dille fired a Harpoon at Koni FF

00:41:24 = Koni FF was destroyed by Dille

00:41:38 = Koni FF was hit by Dille's Harpoon

00:41:58 = Koni FF was destroyed by Dille

00:43:54 = Dille fired a Mark 48 HS at Cargo Ship

00:44:46 = Dille fired a Mark 48 HS at Cargo Ship

00:45:32 = Dille fired a Mark 48 LR at Oil Tanker

00:45:34 = Cargo Ship was hit by Dille's Mark 48 HS

00:45:54 = Cargo Ship was destroyed by Dille

00:46:12 = Dille fired a Mark 48 HS at Oil Tanker

00:46:40 = Cargo Ship was hit by Dille's Mark 48 HS

00:47:00 = Cargo Ship was destroyed by Dille

00:48:32 = Oil Tanker was hit by Dille's Mark 48 HS

00:48:36 = Oil Tanker was hit by Dille's Mark 48 LR

00:51:04 = Dille fired a Mark 48 HS at Oil Tanker

00:52:50 = Oil Tanker was hit by Dille's Mark 48 HS

00:52:52 = Oil Tanker was destroyed by Dille

00:58:40 = Dille fired a Mark 48 LR at Oil Tanker

00:58:46 = Dille fired a Mark 48 LR at Oil Tanker

00:58:54 = Dille fired a Mark 48 LR at Oil Tanker

00:59:56 = Dille fired a Mark 48 LR at Supply Ship Type 1

01:00:40 = Dille fired a Mark 48 LR at Oil Tanker

01:01:14 = Oil Tanker was hit by Dille's Mark 48 LR

01:01:18 = Oil Tanker was hit by Dille's Mark 48 LR
01:01:26 = Oil Tanker was hit by Dille's Mark 48 LR
01:01:28 = Oil Tanker was destroyed by Dille
01:02:04 = Supply Ship Type 1 was hit by Dille's Mark 48 LR
01:02:24 = Supply Ship Type 1 was destroyed by Dille
01:05:58 = Oil Tanker was hit by Dille's Mark 48 LR
01:08:20 = Dille fired a Mark 48 LR at Oil Tanker
01:08:28 = Dille fired a Mark 48 LR at Oil Tanker
01:12:52 = Oil Tanker was hit by Dille's Mark 48 LR
01:12:54 = Oil Tanker was hit by Dille's Mark 48 LR
01:12:56 = Oil Tanker was destroyed by Dille
01:13:00 = logbook entry and status report:
mission successfully completed

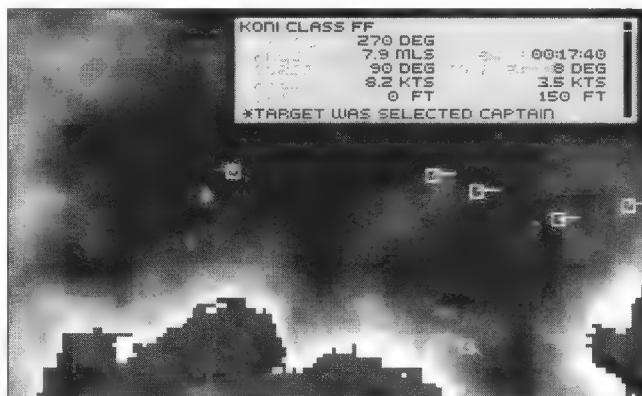
Debrief and Lessons Learned

Let me preface this debriefing by commanding all of you for a job well done. You demonstrated the ability to attack multiple targets simultaneously and decisively, a skill that will be a prerequisite to survival in the days ahead. Now, let's recap the mission.

The *Seawolf* remained at attack depth (150 feet) and 3.5 knots throughout the target classification process. Because contacts were approaching from all aspects, this took a little more time than normal, but not an unacceptable amount given the tactical situation. Luckily, the traffic pattern was such that all contacts would enter the engagement envelope without the *Seawolf*'s having to maneuver. Base course and speed were maintained until roughly 00:38, when the attack was begun. The relative positioning of forces at that point was as shown in Figure 5-6.

Per the executive officer's recommendation, a single high-speed Mk 48 was salvoed at the Koni close aboard, followed immediately by four cruise missile attacks: one Tomahawk each for the two Konis to the west, single Harpoons for those to the east. Unfortunately, we were

Figure 5-5 The relative position after target classification.



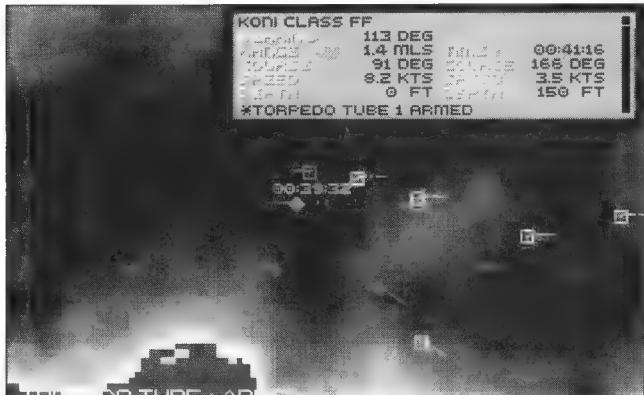


Figure 5-6 The *Seawolf* commences the attack



Figure 5-7 The *Seawolf* begins mopping up the merchants.

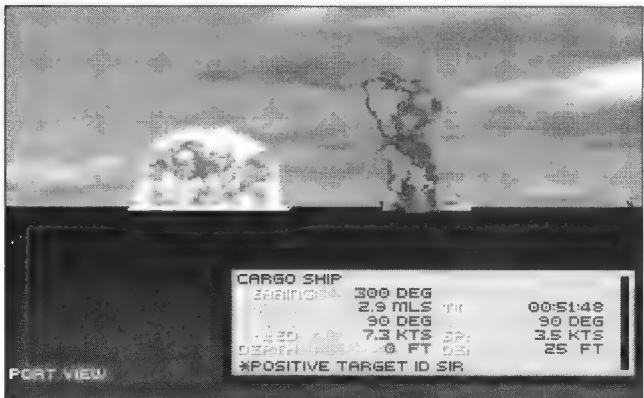


Figure 5-8 Do not hesitate to finish your cripples.

not at periscope depth to witness the show. I assure you, though, gentlemen, the fireworks must have been spectacular, because we lost contact on all the frigates within roughly 1 minute from start to finish. So far, our battle plan was being played out to the letter and we commenced the mop-up phase of the operation.

The remainder of the operation went as expected up until 01:02:24, when the *Seawolf* completed prosecution of a supply ship, which we also believed to be the final target because the waterfall display and sonar plot were clear. We were wrong in that assumption, and the reason we were wrong is the lesson to take away from this debriefing.

When the OOD ordered the *Seawolf* to periscope depth to conduct a visual sweep of the horizon, one of the contacts we had previously engaged was still on the surface. Granted, it was burning profusely, but it was still afloat as well.

Contacts that have been severely damaged will be dead in the water (DIW) and not generating their normal sound signatures. Therefore, they will remain undetected unless we go topside and actively search for them in the periscope. When these types of contacts are found, you must put aside any moral arguments you might have about the survivors and finish your cripples. The Stark incident should reinforce in our minds the possibility of saving ships that have been severely damaged. We cannot afford to allow the enemy this convenience.

A final note: Rear Admiral Grace sent another “G-gram” commanding the *Seawolf* on her performance. This should have the desired effect and generate some more demanding tasking for us in the near future. The scuttlebutt in the intelligence community has the Soviet task force we shadowed off Severomorsk still inbound toward Cuba. I wouldn’t be surprised if that turned out to be our next assignment. In the meantime, we’ll get a couple of days of liberty in *beautiful* Guantanamo Bay. The party is at the O Club; drinks are on the Admiral.

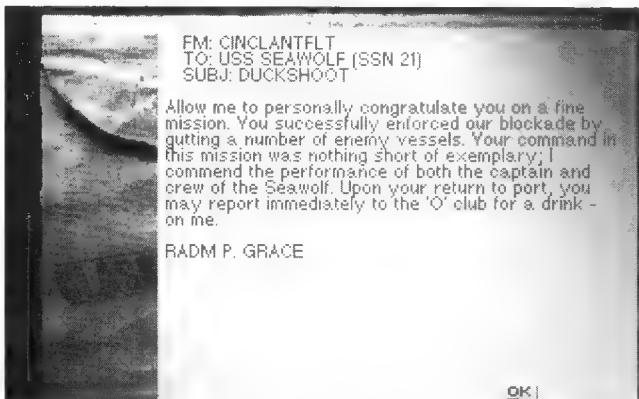


Figure 5-9 Kick back and enjoy a cool one—things will heat up very soon.



MISSION THREE: DÉJÀ VU

Situation Report

The Soviet task force that the *Seawolf* shadowed near Severomorsk was tracked by RORSAT and ELINT satellites consistently until several days ago. The current location of this group is unknown. If they continued on roughly the same course and at the speed they were at during the last intercept, they should be approaching the Cuban coastline within the next 12 hours.

Despite increasingly stern warnings from Washington, the Soviets appear determined to violate the U.S. blockade and, more important, pose an immediate strategic threat to the forces at Guantanamo Bay. If allowed to reach port, the seven supply ships and Ivan Rogov LPD would complicate ground defense issues considerably. Additionally, the Kirov and the Kiev could support assaults against Guantanamo Bay with cruise missile and air strikes. Finally, if the two Typhoons identified at Severomorsk are still with the battle group, their presence this close to home represents an intolerable strategic risk.

Intelligence Report

The enemy Order of Battle (OOB) is known to be as follows:

- 1 Kiev class CV
- 1 Kirov class CGH
- 2 Sovremenny class DD
- 2 Krivak class FF
- 1 Ivan Rogov LPD
- 7 Miscellaneous tanker, freighter and supply ships
- 2 Typhoon class SSBN (suspected)

Synopsis of Orders

The *Seawolf* will take a waiting station along the projected course of the enemy battle group. Upon contact, locate and engage the Typhoon SSBNs (provided they are present). These platforms are the mission's primary objective. Upon completion of the primary, engage the Kiev and Kirov as secondary targets. Prosecute all other contacts as tertiary objectives. Destruction of the entire force would be commendable, but it is not required. Once the primary and secondary objectives have been achieved, use your judgment as to the proper time to break off the engagement and depart.

Rules of Engagement

Warning Red, Weapons Free. Hostile action appears imminent. Proactively prosecute all contacts of interest.

Executive Officer's Comments

Well, Captain, welcome to the majors. This assignment reminds me of an old Navy proverb: "Be careful what you ask for, because you just might get it." We are up against a topflight battle group with some sophisticated weaponry in their back pocket. Even if you keep the Typhoons out of the evaluation, they have a fair chance of detecting us passively if we don't play our cards right.

Intelligence reports indicate that the group is transiting at around 12 knots, so we should be able to approach them from the baffles without being detected. I think we need to think like Indians to pull this one off, Captain—start at the rear of the formation and work our way forward. If we’re lucky, some of our first shots will thin out the more capable screening units, like the Sovremenny DDs, and the rest of them will be so concerned about saving their own skins that they won’t work together to localize our position.

Because of the sheer density of targets, we can count on some cripples instead of kills, particularly the Kiev and the Kirov. I say that we don’t turn back for these as we normally would, but continue pressing the initial assault until all the contacts have taken at least one hit, then mop up. The only exception to this approach would be the Typhoons. We’ve got to stay on them until they’re gone, because otherwise they might go down to the bottom and we simply won’t pick them up again. By the way, the latest intelligence projections on their double-hull construction indicate that it will probably take three solid ADCAP detonations to rupture the inner hull of one of those babies. Food for thought, huh?

The Captain’s Log

Mission time: 01:26:00

Ships destroyed: 7

Subs destroyed: 2

Torpedoes used: 22

Torpedoes hit: 21

Torpedoes evaded: 0

Torpedoes hit us: 0

Noisemakers used: 0

Active sonar: 0

Ident. right/wrong: 0/0

00:42:22 = Dille fired a Mark 48 HS at Typhoon SSBN

00:42:32 = Dille fired a Mark 48 HS at Typhoon SSBN

00:42:38 = Dille fired a Mark 48 HS at Typhoon SSBN

00:43:30 = Dille fired a Mark 48 LR at Kiev CV

00:43:34 = Typhoon SSBN was hit by Dille’s Mark 48 HS

00:43:40 = Typhoon SSBN was hit by Dille’s Mark 48 HS

00:43:48 = Typhoon SSBN was hit by Dille’s Mark 48 HS

00:43:48 = Kiev CV dropped a noisemaker
00:44:08 = Typhoon SSBN was destroyed by Dille
00:44:52 = Dille fired a Mark 48 WH at Kiev CV
00:45:00 = Dille fired a Mark 48 HS at Kiev CV
00:45:46 = Dille fired a Mark 48 WH at Krivak II FFG
00:45:58 = Kiev CV was hit by Dille's Mark 48 HS
00:46:06 = Dille fired a Mark 48 WH at Krivak II FFG
00:46:12 = Kiev CV was hit by Dille's Mark 48 WH
00:46:52 = Dille fired a Mark 48 WH at Kiev CV
00:47:00 = Kirov CGH dropped a noisemaker
00:48:18 = Kiev CV was hit by Dille's Mark 48 WH
00:49:34 = Krivak II FFG was hit by Dille's Mark 48 WH
00:49:38 = Krivak I FFG dropped a noisemaker
00:49:46 = Dille fired a Mark 48 LR at Kirov CGH
00:49:48 = Dille fired a Mark 48 WH at Kirov CGH
00:49:50 = Krivak II FFG was hit by Dille's Mark 48 WH
00:49:52 = Krivak II FFG was destroyed by Dille
00:49:54 = Dille fired a Mark 48 LR at Kirov CGH
00:49:58 = Dille fired a Mark 48 WH at Kirov CGH
00:57:02 = Dille fired a Mark 48 WH at Sovremenny DD
00:57:04 = Dille fired a Mark 48 LR at Sovremenny DD
00:59:48 = Kirov CGH was hit by Dille's Mark 48 LR
01:00:02 = Kirov CGH was hit by Dille's Mark 48 WH
01:00:16 = Kirov CGH was hit by Dille's Mark 48 LR
01:00:24 = Kirov CGH was hit by Dille's Mark 48 WH
01:00:26 = Kirov CGH was destroyed by Dille
01:01:00 = Sovremenny DD was hit by Dille's Mark 48 LR
01:01:00 = Sovremenny DD was hit by Dille's Mark 48 WH
01:01:02 = Sovremenny DD was destroyed by Dille
01:01:18 = Dille fired a Mark 48 WH at Sovremenny DD
01:01:24 = Dille fired a Mark 48 LR at Sovremenny DD
01:04:30 = Dille fired a Mark 48 HS at Typhoon SSBN
01:04:34 = Dille fired a Mark 48 HS at Typhoon SSBN
01:04:44 = Dille fired a Mark 48 HS at Typhoon SSBN
01:05:04 = Sovremenny DD was hit by Dille's Mark 48 WH
01:05:06 = Sovremenny DD was hit by Dille's Mark 48 LR
01:05:08 = Sovremenny DD was destroyed by Dille

01:05:30 = Typhoon SSBN was hit by Dille's Mark 48 HS
01:05:40 = Typhoon SSBN was hit by Dille's Mark 48 HS
01:06:30 = Typhoon SSBN dropped a noisemaker
01:06:42 = Typhoon SSBN was hit by Dille's Mark 48 HS
01:07:02 = Typhoon SSBN was destroyed by Dille
01:07:34 = Dille fired a Mark 48 HS at Ivan Rogov LPD
01:07:36 = Dille fired a Mark 48 HS at Ivan Rogov LPD
01:09:12 = Ivan Rogov LPD was hit by Dille's Mark 48 HS
01:09:12 = Ivan Rogov LPD was hit by Dille's Mark 48 HS
01:09:14 = Ivan Rogov LPD was destroyed by Dille
01:13:30 = Dille fired a Harpoon at Krivak I FFG
01:13:50 = Krivak I FFG was hit by Dille's Harpoon
01:14:10 = Krivak I FFG was destroyed by Dille
01:25:26 = Dille fired a Tomahawk at Kiev CV
01:25:46 = Kiev CV was hit by Dille's Tomahawk
01:25:48 = Kiev CV was destroyed by Dille
01:26:00 = logbook entry and status report:
mission successfully completed

Debrief and Lessons Learned

After the relative motion of the Soviet group was determined, it became apparent that an offset approach through the merchant shipping traffic (the classic "end around") would be too time-consuming. Therefore, a decision was made to go down to the deep sound channel and approach the Soviets at bare steerageway, about 3.5 knots. The idea at the time was that if they cooperated by maintaining course and speed, we would end up in their baffles in an almost perfect attack profile.

The risk was that as they passed overhead, the *Seawolf* stood a good chance of being detected. Fortunately, that did not happen. Figure 5.11 shows the *Seawolf* altering course to starboard to fall in behind the Typhoon at the tail of the formation, and increasing speed to one-quarter power to roughly match the Soviet

Figure 5-10 First contact holds the battle group to the northeast.



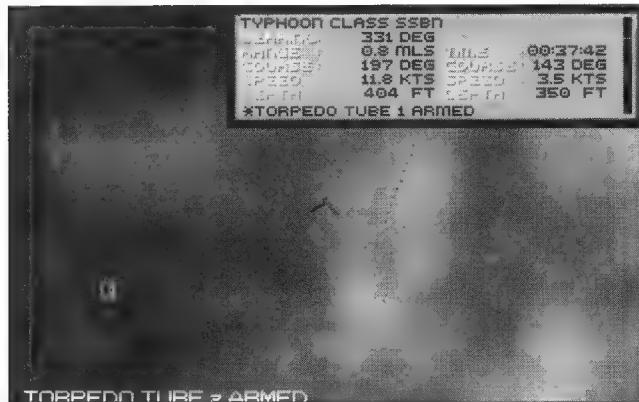


Figure 5-11 The *Seawolf* assumes a near-perfect baffles attack profile



Figure 5-12 The *Seawolf* initiates surface prosecution with the Kiev.



Figure 5-13 The remnants of a once-proud task force, ripe for the taking.

course and speed and maintain position while setting up the initial attack.

As soon as that Typhoon was dispatched, the OOD initiated the surface prosecution with urgent attacks on the Kiev and the closest of the escorts, using a combination of long range and wake-homing Mk 48s. During this firing sequence, the *Kirov* launched a noisemaker, something that we had seen from surface ships before, and successfully decoyed one of the Mk 48s. This was the only shot we fired, I'm happy to add, that did not find its mark. You should make a note of the use of a decoy by the *Kirov*, however, and anticipate similar employment of this countermeasure in future engagements.

The *Seawolf* continued prosecution from the baffles of the group, working right to left from their vantage point. It appears that Soviet dogma worked in our favor during this engagement, because even after the first ships were hit, the others attempted to continue with their original mission instead of scattering to increase their chances of survival. Because of this inflexibility, the *Seawolf* was able to eradicate the entire group. Figure 5.13 illustrates the final sequence of that engagement.

Upon completion of the final sweep, the *Seawolf* came to periscope depth to survey the situation. Our ESM mast detected the sole remaining Krivak transiting south, slightly over the horizon and out of visual range, and eradicated it with a Harpoon. Meanwhile, to the north, the Kiev was on fire and wallowing helplessly against a beautiful Caribbean sunset. You can't

imagine a prettier picture than that on a postcard, so that's exactly what we will do with this print. I have asked the supply officer to have 5,000 copies made and we'll be selling them in the ship's store. Send them home to your friends and loved ones so they don't accuse us of simply being on vacation down here.



Figure 5-14 Sunset in paradise



MISSION FOUR: BACKYARD BOOMERS

Situation Report

A few days ago, the SOSUS net detected the sound signatures of three Soviet ballistic missile submarines crossing the North Atlantic. Sporadic contact was maintained up to a position near the entrance to Chesapeake Bay. Our inability to reacquire these submarines on conventional tracking arrays indicates a strong possibility that they have taken up forward-deployed firing positions in Chesapeake Bay. From there, these assets could launch a low-trajectory strike against several major U.S. cities. The Diplomatic Corps is convinced that the Russians will not initiate such an attack unless the prevailing conflict has already escalated to a nuclear exchange. Nevertheless, CINCLANTFLT wants the *Seawolf* to "delouse" Chesapeake Bay.

Intelligence Report

The time-late SOSUS data confirms the presence of two Delta class SSBNs and one Yankee class SSBN. Additionally, a Victor class SSN is suspected to be operating in support of the boomers. There is a high volume of merchant traffic in the area, which will make it difficult to find the characteristically low SSBN sound profiles amid all the ambient noise.

Synopsis Order

Conduct a detailed sweep of Chesapeake Bay with the thin-line towed array. Detect, localize, and destroy the three SSBNs and any attack sub-

marines that are protecting them. Elements of Desron Eight, previously on port call at Annapolis, have been dispatched to assist. Specifically, this Surface Action Unit (SAU) consists of an Adams class DDG, a Spruance class DD, and an Oliver Hazard Perry FFG. This group will act independently in support of the *Seawolf*'s prosecution efforts.

Rules of Engagement

Warning White, Weapons Tight for all surface contacts. If any of the contacts of interest were to surface as a result of battle damage, they become the responsibility of the SAU. Warning Red, Weapons Free for all subsurface contacts. All other U.S. submarines have been ordered clear of the *Seawolf*'s kill zone. Consequently, the *Seawolf* may fire on any POSSUB contact or higher as soon as a targeting solution is generated.

Executive Officer's Comments

This one is definitely real-world, Captain. Not only do we have to worry about hunting the boomers—we've got to be concerned about their buddies hunting us at the same time. Frequent clearing of the baffles is definitely in order whenever we are not in contact with all the remaining submarines.

The up side of the situation is that we are dealing with Soviet boomers that are older and noisier than the current generation of Typhoons. They should be easy to acquire from up to 10 miles away, provided that we stay deep and quiet, with the array deployed. Also, since these boats are single-hull construction, it will only take two Mk 48s to finish them off (versus three for the Typhoon). These combined factors should allow prosecution of at least one of them with Sea Lance.

CINCLANTFLT seems to believe that having the three skimmers in the area (the Spruance, Perry, and Adams class surface ships) will help us, but I doubt it. They get so edgy all exposed up there on the surface, that they're just as likely to shoot us as the Soviets. That's why my recommendation is that we give them a wide berth.

The Captain's Log

Mission time: 01:12:30

Ships destroyed: 0

Subs destroyed: 4

Torpedoes used: 13

Torpedoes hit: 9

Torpedoes evaded: 2

Torpedoes hit us: 3

Noisemakers used: 3

Active sonar: 2

Ident. right/wrong: 0/0

00:25:18 = Dille fired a Mark 48 HS at Delta I SSBN

00:25:24 = Dille fired a Mark 48 HS at Delta I SSBN

00:25:28 = Dille fired a Mark 48 HS at Delta I SSBN

00:26:26 = Delta I SSBN was hit by Dille's Mark 48 HS

00:26:28 = Delta I SSBN was hit by Dille's Mark 48 HS

00:26:28 = Delta I SSBN dropped a noisemaker

00:26:30 = Delta I SSBN was destroyed by Dille

00:30:06 = Dille fired a Sea Lance at Yankee SSBN

00:30:18 = Dille fired a Sea Lance at Yankee SSBN

00:31:18 = Yankee SSBN was hit by Dille's Sea Lance

00:31:36 = Yankee SSBN was hit by Dille's Sea Lance

00:31:38 = Yankee SSBN was destroyed by Dille

00:42:00 = Dille fired a Mark 48 HS at Victor I SSN

00:42:06 = Dille fired a Mark 48 HS at Victor I SSN

00:42:26 = Dille fired a Mark 48 HS at Victor I SSN

00:42:34 = Dille fired a Mark 48 HS at Victor I SSN

00:43:24 = Victor I SSN was hit by Dille's Mark 48 HS

00:43:48 = Victor I SSN was hit by Dille's Mark 48 HS

00:44:08 = Victor I SSN was destroyed by Dille

00:44:50 = Dille was hit by Dille's Mark 48 HS

00:45:04 = Dille was hit by Dille's Mark 48 HS

00:45:04 = damage control report: hydraulic leak in weapons room

00:45:12 = damage control report: increased cavitation off the screw

00:57:14 = Dille used active sonar

01:00:02 = Delta II SSBN fired a Type 53 LR at Dille

01:00:30 = Delta II SSBN fired a Type 53 LR at Dille

01:01:04 = Dille dropped a noisemaker

01:01:54 = Dille fired a Mark 48 LR at Delta II SSBN

01:02:02 = Dille fired a Mark 48 LR at Delta II SSBN

01:03:00 = Dille dropped a noisemaker

01:04:22 = Delta II SSBN dropped a noisemaker
01:04:30 = Dille dropped a noisemaker
01:06:42 = Dille used active sonar
01:07:54 = Delta II SSBN was hit by Dille's Mark 48 LR
01:09:24 = Delta II SSBN dropped a noisemaker
01:09:50 = Dille fired a Mark 48 HS at Delta II SSBN
01:09:54 = Dille fired a Mark 48 HS at Delta II SSBN
01:11:52 = Delta II SSBN was hit by Dille's Mark 48 HS
01:11:58 = Delta II SSBN was hit by Dille's Mark 48 HS
01:12:00 = Delta II SSBN was destroyed by Dille
01:12:28 = Dille was hit by Dille's Mark 48 LR
01:12:30 = logbook entry and status report:
mission successfully completed

Debrief and Lessons Learned

Gentlemen, if there is one lesson you take away from this debriefing, let it be this: *When you are maneuvering radically at close quarters with an enemy submarine, some of the guidance cables for the Mk 48s are going to get cut. When this happens, they are loose cannons, as likely to shoot you in the face as to shoot the enemy.*

Unfortunately, and painfully, this lesson was reinforced for us three times during this mission. I would like to come up with some elaborate explanation for this turn of events, but words fail me. There is no excuse, gentlemen. We should all just thank God we're still alive and get on with it, which is exactly what I am going to do now. As the mission commenced, the tactical plot was devoid of all but friendly traffic.

The *Seawolf* adopted a low slow-patrol profile, allowing the passive array to do its job. The subsurface plot took a while to develop, but we soon held contact on three of the four submarines suspected to be operating in the area.

The Delta I SSBN was the closest of the three, so we began our stalk with her. Her skipper turned out to be either asleep or not well qualified for the job. The

Figure 5-15 The *Seawolf* surveys the surface picture.



SSBN was easily dispatched and the approach to the Victor I began. Because setting up this shot would take some time, and any subsequent maneuvers we took to avoid her return fire might cause us to lose contact with the Yankee class, we decided to conduct a standoff prosecution of her with Sea Lance.

The Yankee was likely monitoring the hydrophone affects of our attack on the Delta, and knew we were quite some distance away. Therefore, when our two Sea Lances dropped into the water almost right on top of their heads, they were not prepared. Unfortunately, our inflated self-confidence got us into immediate trouble with the Victor I.

He was prepared for our assault and maneuvering radically. After our first two shots appeared to have missed him, we rapidly put two more fish into the water, putting the first shots out of our minds entirely. Big mistake, gentlemen. The first shots reacquired the Victor I and made the kill, but we were maneuvering so tightly to keep him out of our baffles that the cables on the second salvo were severed. You already know the punchline.

For the next 15 minutes, we were forced to struggle to save the ship instead of concentrating on our mission. Once things were back under control, the Delta II SSBN was still unlocated. Playing a hunch that she had vectored in on the sound created by our recent melee with the Victor I, I ordered Sonar to send a single targeting pulse. Sure enough, there she was, trying to creep into attack position.

The *Seawolf* got off a couple of urgent



Figure 5-16 The skunks come out of their holes.



Figure 5-17 The first phase of the engagement in microcosm.

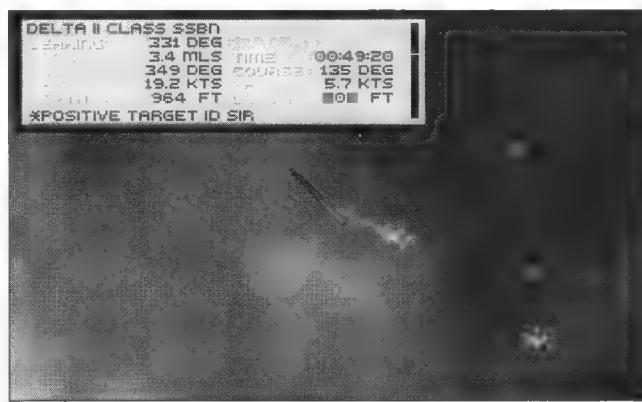


Figure 5-18 Hunting the Delta II SSBN

attacks and started to maneuver for a more advantageous firing position. The Delta II began using her noisemakers to great advantage and one of them actually led a Mk 48 back toward the *Seawolf*. By now, however, it was too late for us to do anything but press home our followup attack and pray the inbound friendly fire would miss us. Well, we batted .500 on this one also. The rest is history. We wrapped the mission and the brass is happy with that, but I'm not at all pleased with our performance. We took unnecessary damage because we acted with overconfidence and haste. Those are fatal qualities that must be eradicated here and now.



MISSION FIVE: CONVOY DUTY

Situation Report

Some Soviet attack submarines have already broken through pickets at the Greenland Iceland United Kingdom (GIUK) gap and are threatening Allied sea lines of communication (SLOC) with Europe. Given the grave shortages of merchant marine shipping, any losses that these submarines inflict on our convoys will have far-reaching consequences.

Intelligence Report

Convoy ON-115 was transiting the mid-Atlantic at approximately 0435 this morning when they received an ESM intercept of a Bear reconnaissance aircraft conducting a targeting data downlink. Since there are no known Soviet surface vessels in the area, the only other possible recipient of that data would be an Echo II class SSGN. Passive cross-fixing of the same intercept yielded an ellipse of probability for the Echo II that measured 5 miles wide by 25 miles long. Because those data are now five hours old, the Echo II could be anywhere within a 100-nautical-mile radius of the original intercept. In the worst-case scenario, this would place the Echo II within striking distance of Convoy ON-115 two hours from now.

A related piece of intelligence indicates that due to age and to the high failure rate of the SSN-12 Sandbox launchers, the Soviets no longer send Echo II hulls on independent patrols. Assuming that pattern remains valid during this period of increased tension, ASW forces can expect the Echo II to be supported by a late-generation Charlie class SSGN.

Synopsis of Orders

The *Seawolf* will temporarily be diverted from PIM to rendezvous with Convoy ON-115. Escort Convoy ON-115 until relieved by other assets. During the escort, remain extremely vigilant for the appearance of the Soviet shooters. These submarines must not, at all costs, be allowed to attain firing positions on the convoy. When relieved, proceed to the previously assigned picket station in the Iceland/Faroe Island gap.

Rules of Engagement

Warning Red, Weapons Free. Prosecute all known hostile contacts with expediency.

Executive Officer's Comments

Captain, I know that you're new to this kind of escort mission, so I think it's important that you understand something up front. It's one thing to cover our own butts against attack, but shepherding a bunch of ancient mariners through hostile waters is another story altogether. Losses are unacceptable to the higher-ups in the chain of command, but the *Seawolf* cannot physically be everywhere at once.

We have reason to believe that there are least two Soviet attack boats out there, working in cahoots with one another. If we catch them when they're close together, no problem, but if they come at our charges from widely separate firing positions, we're hosed.

We have to keep several things in our minds at all times to pull this one off. First, we've got to put the Soviets on the defensive, evading our torpedoes instead of setting up shots of their own, almost from the instant we classify them. If we don't do that, they'll get off some rounds and the game is over. Second, we have to close these contacts quickly, keeping fish in the water all the time. Third, we have to manage our torpedoes carefully and detonate any of those that do not appear locked onto the contacts of interest. Otherwise, the seeker heads of the Mk 48s could inadvertently acquire one of our merchants, and it would be time for the long green table with no ashtrays (i.e., a court martial). You'll find that playing defense is definitely harder than offense. The other guy has the initiative and you have to have foresight to take it back from him.

The Captain's Log

Mission time: 00:30:30

Ships destroyed: 0

Subs destroyed: 2

Torpedoes used: 8

Torpedoes hit: 4

Torpedoes evaded: 0

Torpedoes hit us: 0

Noisemakers used: 0

Active sonar: 0

Ident. right/wrong: 0/0

00:12:00 = Dille fired a Sea Lance at Echo II SSGN

00:12:08 = Dille fired a Sea Lance at Echo II SSGN

00:14:08 = Dille fired a Mark 48 LR at Echo II SSGN

00:14:16 = Dille fired a Mark 48 LR at Echo II SSGN

00:16:36 = Echo II SSGN was hit by Dille's Sea Lance

00:18:16 = Dille fired a Mark 48 HS at Echo II SSGN

00:18:28 = Echo II SSGN was hit by Dille's Sea Lance

00:18:48 = Echo II SSGN was destroyed by Dille

00:20:04 = Mark 48 LR was detonated by Dille

00:20:42 = Mark 48 LR was detonated by Dille

00:23:42 = Dille fired a Mark 48 LR at Charlie SSGN

00:23:52 = Dille fired a Mark 48 LR at Charlie SSGN

00:26:56 = Dille fired a Mark 48 LR at Charlie SSGN

00:29:22 = Charlie SSGN fired a Type 53 LR at Supply Ship Type 1

00:29:32 = Charlie SSGN fired a Type 53 LR at Supply Ship Type 1

00:29:54 = Charlie SSGN was hit by Dille's Mark 48 LR

00:29:56 = Charlie SSGN was hit by Dille's Mark 48 LR

00:30:16 = Charlie SSGN was destroyed by Dille

00:30:30 = logbook entry and status report:

mission successfully completed

Debrief and Lessons Learned

As expected, because the Echo II is a much older hull, she was the first to be detected. As soon as solid contact was held, the *Seawolf* launched two Sea Lance rocket-thrown torpedoes at the Echo II and proceeded toward her at

22.5 knots, the best non-cavitating speed we could attain with the array deployed. The Sea Lance shots served to drive the Echo II toward us as she tried to evade them.

The torpedoes achieved a tail-chase position and began to close the gap, but there was a significant chance that the Echo II would be able to fire at one or more of the convoy before they completed the intercept. Therefore, a salvo of two long-range Mk 48s was fired bow-on at a range of 4 miles. These torpedoes placed the Echo II between a rock and a hard place, as it were. When she attempted to change course by 90 degrees to avoid the new threat, the torpedoes following her finally caught up. Following that, the crew of the *Seawolf* proved that they had learned their lesson from the previous mission and detonated the remaining ADCAPs.

Subsequently, the Charlie SSGN was located just in the nick of time. She had already attained firing position on two ships of the convoy and was flooding her tubes. The *Seawolf* managed to get off yet another urgent salvo that finished her quickly and saved the lives of all the men aboard those two ships.

Imagine how they must feel, coming that close to death and never knowing it until after the fact. At least there was an after—right, gentlemen?

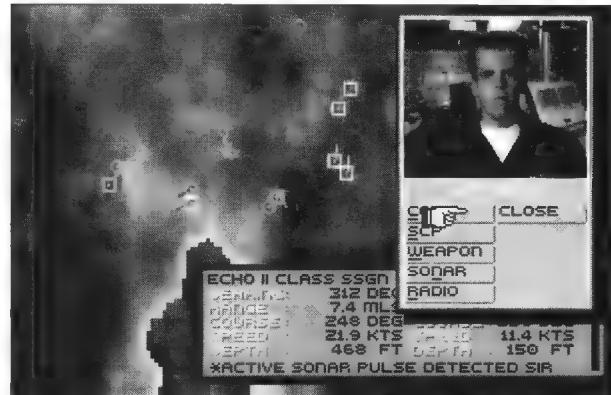


Figure 5-19 The Echo II goes evasive after the Sea Lance attack.

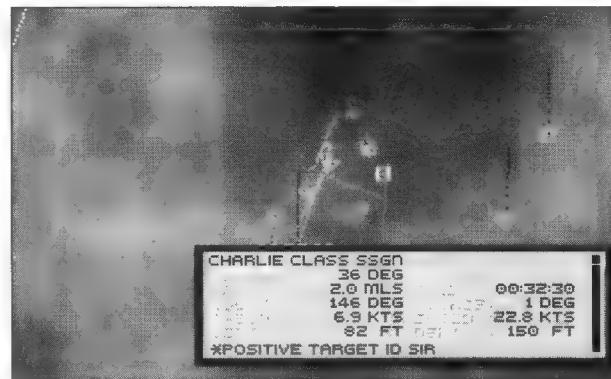


Figure 5-20 Killing the Charlie in time requires some fancy footwork and flawless reactions.

MISSION SIX: BATTLE ROYALE

Situation Report

The second wave of Soviet submarines has gotten under way from bases in the White Sea and is expected to attempt to break through the GIUK picket line some time within the next 12 to 24 hours. If successful, these subs will most likely be moving on into the Atlantic to harass SLOCs and complicate the Allied effort to supply ground forces in Europe. All sub-

marine pickets are advised to prosecute with care to avoid the possibility of blue-on-blue engagements.

Intelligence Report

The most recent satellite imagery of bases in the White Sea indicates that the remaining Delta class SSBN, whose previous sortie window was delayed by emergency repairs, is now under way. Additionally, several Kilo SSNs, some Victor SSNs and the lone November SSN are unaccounted for and assumed to be part of the current breakout attempt. A weather front is expected to move into the area over the next 12 hours; in conjunction with heavy commercial shipping traffic, it will raise ambient noise to almost unacceptable levels.

Synopsis of Orders

Detect and track all subsurface targets within the *Seawolf's* sensor range. Generate firing solutions as rapidly as possible on new contacts but do not engage them until they have been positively identified as hostile. Expect a heavy concentration of U.S. and Soviet submarines, which will confuse the tactical picture for all the players. When multiple subsurface contacts have been classified, the priority of engagement is as follows: SSBN, SSGN, SSN, SS.

Rules of Engagement

Warning Red, Weapons Tight. Weapons release authority is automatically granted once target classification has been verified as hostile.

Executive Officer's Comments

Now that the boys have tasted blood, they'll be eager for some more. It will be up to you and me to have the cooler heads and inject a little caution into the situation. We know that the Permit is out there somewhere, trying to do the same thing we are. Further, merchant traffic in the area is heavy, and we have learned how much damage errant Mk 48s are capable of inflicting.

The Sonar gang will have to really be on their toes for this one, breaking out the pubs and classifying those contacts as quickly as possible. If we do get a fix on the Permit, we need always to remain aware of where

she is. It would be better to hold off on a questionable shot than to unnecessarily jeopardize another friendly. We hope the bad guys will be so preoccupied in the target-rich environment that they won't be worried about us and we can ruin their day.

The Captain's Log

Mission time: 00:58:30

Ships destroyed: 0

Subs destroyed: 3

Torpedoes used: 11

Torpedoes hit: 7

Torpedoes evaded: 0

Torpedoes hit us: 0

Noisemakers used: 4

Active sonar: 0

Ident. right/wrong: 0/1

00:04:52 = Dille fired a Sea Lance at Kilo SS

00:05:00 = Dille fired a Sea Lance at Kilo SS

00:06:16 = Permit SSN fired a Sea Lance at Delta I SSBN

00:06:30 = Kilo SS was hit by Dille's Sea Lance

00:06:42 = Kilo SS was hit by Dille's Sea Lance

00:06:44 = Kilo SS was destroyed by Dille

00:08:06 = Delta I SSBN dropped a noisemaker

00:10:46 = Permit SSN fired a Mark 48 HS at Delta I SSBN

00:11:14 = Permit SSN fired a Mark 48 HS at Delta I SSBN

00:12:32 = Delta I SSBN was hit by Permit SSN's Mark 48 HS

00:12:52 = Delta I SSBN was destroyed by Permit SSN

00:15:00 = Dille fired a Mark 48 LR at Victor I SSN

00:15:06 = Dille fired a Mark 48 LR at Victor I SSN

00:15:58 = Permit SSN fired a Sea Lance at Victor II SSN

00:16:18 = Victor I SSN dropped a noisemaker

00:16:28 = Victor II SSN dropped a noisemaker

00:16:30 = Victor I SSN was hit by Dille's Mark 48 LR

00:16:32 = Victor I SSN was hit by Dille's Mark 48 LR

00:16:52 = Victor I SSN was destroyed by Dille

00:23:50 = Dille fired a Mark 48 HS at Victor II SSN

00:24:38 = Victor II SSN dropped a noisemaker

00:26:32 = Dille dropped a noisemaker
00:26:56 = Dille fired a Mark 48 HS at Victor II SSN
00:27:04 = Dille fired a Mark 48 LR at Victor II SSN
00:28:46 = Victor II SSN dropped a noisemaker
00:29:44 = Permit SSN fired a Mark 48 LR at Victor II SSN
00:30:00 = Dille fired a Mark 48 HS at Victor II SSN
00:30:12 = Permit SSN fired a Mark 48 LR at Victor II SSN
00:32:46 = Victor II SSN was hit by Dille's Mark 48 HS
00:32:56 = Dille fired a Mark 48 HS at Victor II SSN
00:33:10 = Victor II SSN dropped a noisemaker
00:33:24 = Dille dropped a noisemaker
00:33:56 = Permit SSN fired a Mark 48 HS at Victor II SSN
00:34:24 = Permit SSN fired a Mark 48 HS at Victor II SSN
00:34:54 = Dille dropped a noisemaker
00:35:42 = Victor II SSN was hit by Permit SSN's Mark 48 HS
00:36:02 = Victor II SSN was destroyed by Permit SSN
00:37:06 = Dille dropped a noisemaker
00:37:54 = Permit SSN dropped a noisemaker
00:46:42 = Dille incorrectly identified November SSN
00:57:02 = Dille fired a Mark 48 HS at November SSN
00:57:06 = Dille fired a Mark 48 HS at November SSN
00:58:08 = November SSN was hit by Dille's Mark 48 HS
00:58:12 = November SSN was hit by Dille's Mark 48 HS
00:58:14 = November SSN was destroyed by Dille
00:58:30 = logbook entry and status report:
mission successfully completed



Figure 5-21 The initial tactical situation map is crowded.

Debrief and Lessons Learned

I think everyone will agree that this mission was a harbinger of things to come. Although the entire engagement lasted less than an hour, it was the most intense combat any of us had experienced up to that point. We were lucky to find the Kilo diesel boat early in the game and get in a standoff attack. When she goes on batteries, she is damned hard to locate, let alone track and engage.

The *Seawolf* then acquired a Victor I SSN and began setting up a stern shot. Concurrently, but unbeknownst to us at the time, the Permit was prosecuting a Delta I SSBN to the west. Both engagements were concluded successfully in short order.

Subsequently, the *Seawolf* and the Permit succeeded in double-teaming a Victor II SSN without inflicting any harm on one another, thank God. As soon as that engagement concluded, the Permit turned to open the range between us to the west; we recognized the wisdom of that move and turned back toward the east. Easily, and without any direct communication, we had both established our areas of responsibility.

The finale of this engagement involved a long, delicate stern approach on the November SSN, which was attempting to leave the area down at 1,000 feet. the *Seawolf* approached her patiently until a perfect tail was achieved at 0.8 nautical miles, dead behind the November's screws. From this position of invisibility, the *Seawolf* delivered the final blows. Undoubtedly, the crew of the November never knew what hit them.



Figure 5-22 Prosecuting the Victor I SSN.

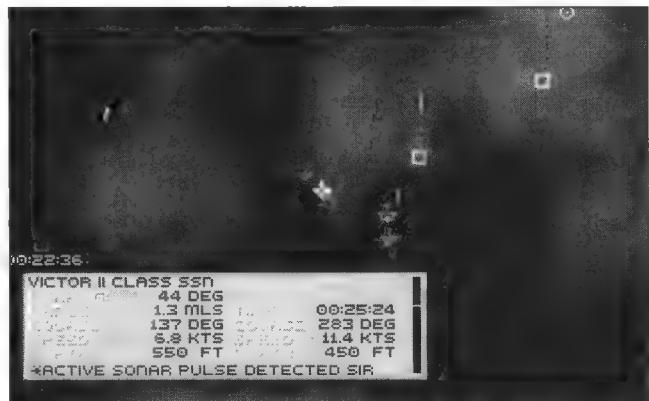


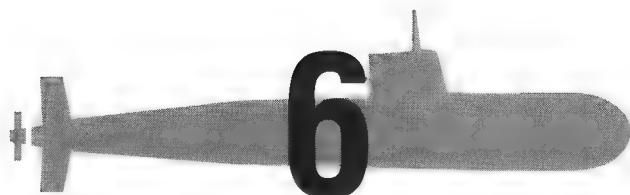
Figure 5-23 The *Seawolf* softens up a Victor II SSN for the Permit's finishing touches

JCS AFTER-ACTION SUMMARY

This series of battles illustrates the failure of the Allied diplomatic initiatives. Continued escalation at sea seems inevitable. All commanding officers should ensure that their crews maintain the highest possible state of wartime readiness. The fate of all that we cherish hangs in the balance. Do your duty!







Northern Lights

JCS THREAT BRIEFING



A peaceful resolution to the current conflict seems beyond our grasp. Consequently, the Commander in Chief recognizes the need to progress from purely reactive missions to proactive pursuit of enemy forces. In other words, gentlemen, it is time to take the battle to the enemy's home waters instead of defending our own. Because we intend to litter the North Sea and the Baltic with the burning hulks of his warships, the code name for this offensive is Northern Lights.

The Soviets enjoy a distinct firepower advantage in this region. Therefore, we are not sending in our carrier battle groups until we have had the opportunity to thin out the opposition a bit. Submarines are our most survivable assets in hostile waters, so the first phase of the operation will involve deep penetrations by the *Seawolf* and by improved 688 attack boats. These assets, though few in number, have the potential of putting the Soviets on the defensive, which will buy us enough time to get our carriers into position.

We may also have a chance to storm the Soviet SSBN bastions. If this opportunity presents itself, we must take maximum advantage. After all, the greater the nuclear disparity in our favor, the stronger our position at the bargaining table. Good luck, gentlemen, and good hunting!



MISSION SEVEN: ARCHANGEL VIGIL

Situation Report

As a major port for the Soviet northern fleet, the naval base at Severodvinsk is the linch pin of the entire naval war on NATO's Northern flank. CINCLANTFLT has ordered the *Seawolf* to take station in the narrow channels off Severodvinsk to harass, cripple and sink as many ships of the Northern Fleet as the *Seawolf*'s weapons load will allow. Targets will be plentiful, but enemy mines and ASW activity will be heavy as well.

Intelligence Report

Soviet submarine activity in the area of operations is expected to range from light to nonexistent, since most attack boats have already departed to act as linebackers for Soviet boomer stations.

Surface activity will be moderate to heavy. Coast watchers report that the following units are operating in the vicinity of Severodvinsk:

- 1 Kiev class CV
- 1 Kirov class CGH
- 1 Slava class CG
- 1 Kynda class CG
- 1 Kresta class CG
- 1 Sovremenny class DD

In addition, there are numerous amphibious and support ships in the area, including Alligator class LSTs, Ivan Rogov LPDs (unloaded), and Sayany salvage ships. All, other friendly assets have been ordered out of the area to preclude the possibility of blue-on-blue engagements.

Standoff attacks by SSN-14-capable platforms pose the greatest threat to mission accomplishment. Also, HUMINT sources indicate that the Sovremenny in the area has recently recertified all her watch sections in ASW. Therefore, early prosecution of this asset will improve chances of avoiding detection.

Synopsis of Orders

The *Seawolf* is to proceed to the operating area at best non-cavitating speed. Once on station, use passive sensors to locate the enemy task force,

suspected to be transiting through the narrows off Severodvinsk toward open ocean. Do not allow these ships to reach their objective, or the subsequent ingress of our carrier battle groups may be jeopardized. The *Seawolf's* primary objective is to destroy the four Soviet cruisers, thereby neutralizing their substantial SSM inventories.

Kiev will also be present with this group. Take her if the opportunity presents itself, but not if it entails revealing your position and jeopardizing the primary mission. Other escorts and support ships should be regarded as tertiary objectives or targets of opportunity. Do not linger in the area for mop-up. Strike the cruisers swiftly and decisively, then leave at the first opportunity.

Rules of Engagement

Warning Red, Weapons Free. Engage surface contacts at will.

Executive Officer's Comments

I can almost smell the borscht from here, can't you? Captain, this is the mission we've all been looking forward to, our first real chance to catch Ivan with his guard down. He'll never expect us to be playing in his own backyard, so we should be able to surprise him. I recommend we maneuver below the layer at minimum speed until we have at least three of the four cruisers within weapons range, then send a salvo of two Mk 48 at each. Because the cruisers will be operating in a narrow channel, I recommend wake homers over the other variants. Once they lock on, he won't have much chance to shake them. We should fire these at ranges between 1.5 and 3 nm, then load the tubes for a followup attack. We can hold off on flooding the tubes until just before we need them. Our only other consideration is that we don't have a lot of battle space beneath the keel either, so we can't go deep to get away from Ivan's torpedoes. Better to stay undetected for as long as possible and use speed to get to deeper water if we absolutely must.

The Captain's Log

Mission time: 02:53:30

Ships destroyed: 12

Subs destroyed: 0

Torpedoes used: 25
Torpedoes hit: 25
Torpedoes evaded: 1
Torpedoes hit us: 2
Noisemakers used: 4
Active sonar: 0
Ident. right/wrong: 0/0
00:25:06 = Slava CG fired an SS-N-14 Missile at Dille
00:25:40 = Dille dropped a noisemaker
00:26:34 = Dille fired a Mark 48 WH at Ivan Rogov LPD
00:26:42 = Dille fired a Mark 48 WH at Ivan Rogov LPD
00:27:24 = Dille fired a Mark 48 HS at Kynda CG
00:28:08 = Dille fired a Mark 48 WH at Kynda CG
00:28:50 = Ivan Rogov LPD was hit by Dille's Mark 48 WH
00:28:52 = Dille was hit by Slava CG's SS-N-14 Missile
00:28:58 = Ivan Rogov LPD was hit by Dille's Mark 48 WH
00:29:00 = Ivan Rogov LPD was destroyed by Dille
00:29:16 = damage control report: towed array damaged
00:29:18 = logbook entry and status report:
the towed array was cut
00:30:20 = Kynda CG was hit by Dille's Mark 48 HS
00:31:34 = Kynda CG was hit by Dille's Mark 48 WH
00:31:36 = Kynda CG was destroyed by Dille
00:50:58 = Dille fired a Mark 48 WH at Kresta I CG
00:51:08 = Dille fired a Mark 48 LR at Kresta I CG
00:54:10 = Kresta I CG dropped a noisemaker
00:57:02 = Kresta I CG was hit by Dille's Mark 48 LR
00:58:54 = Kresta I CG was hit by Dille's Mark 48 WH
00:58:56 = Kresta I CG was destroyed by Dille
01:05:30 = Dille fired a Mark 48 HS at Sayany Salvage/Rescue
01:05:36 = Dille fired a Mark 48 HS at Sayany Salvage/Rescue
01:06:08 = Dille fired a Mark 48 HS at Alligator 3 LST
01:06:14 = Dille fired a Mark 48 HS at Alligator 3 LST
01:06:14 = Sayany Salvage/Rescue was hit by Dille's Mark 48 HS
01:06:20 = Sayany Salvage/Rescue was hit by Dille's Mark 48 HS
01:06:22 = Sayany Salvage/Rescue was destroyed by Dille

01:06:58 = Dille fired a Mark 48 HS at Ivan Rogov LPD
01:07:02 = Dille fired a Mark 48 HS at Ivan Rogov LPD
01:07:20 = Alligator 3 LST was hit by Dille's Mark 48 HS
01:07:24 = Alligator 3 LST was hit by Dille's Mark 48 HS
01:07:26 = Alligator 3 LST was destroyed by Dille
01:09:02 = Ivan Rogov LPD was hit by Dille's Mark 48 HS
01:09:06 = Ivan Rogov LPD was hit by Dille's Mark 48 HS
01:09:08 = Ivan Rogov LPD was destroyed by Dille
01:11:52 = Dille fired a Mark 48 LR at Sayany Salvage/Rescue
01:12:10 = Dille fired a Mark 48 LR at Sayany Salvage/Rescue
01:14:02 = Sayany Salvage/Rescue was hit by Dille's Mark 48 LR
01:14:08 = Sayany Salvage/Rescue was hit by Dille's Mark 48 LR
01:14:10 = Sayany Salvage/Rescue was destroyed by Dille
01:49:58 = Dille fired a Mark 48 WH at Sovremenny DD
01:49:58 = Dille fired a Mark 48 WH at Sovremenny DD
01:53:38 = Sovremenny DD was hit by Dille's Mark 48 WH
01:53:38 = Sovremenny DD was hit by Dille's Mark 48 WH
01:53:40 = Sovremenny DD was destroyed by Dille
02:22:26 = Dille fired a Mark 48 WH at Slava CG
02:22:34 = Dille fired a Mark 48 LR at Slava CG
02:23:10 = Dille fired a Mark 48 HS at Alligator 3 LST
02:23:16 = Dille fired a Mark 48 HS at Alligator 3 LST
02:23:52 = Dille fired a Mark 48 WH at Kiev CV
02:23:56 = Dille fired a Mark 48 LR at Kiev CV
02:25:02 = Alligator 3 LST was hit by Dille's Mark 48 HS
02:25:08 = Alligator 3 LST was hit by Dille's Mark 48 HS
02:25:10 = Alligator 3 LST was destroyed by Dille
02:25:40 = Slava CG dropped a noisemaker
02:28:44 = Kiev CV was hit by Dille's Mark 48 WH
02:28:44 = Kiev CV was hit by Dille's Mark 48 LR
02:29:10 = Slava CG was hit by Dille's Mark 48 LR
02:30:00 = Dille fired a Mark 48 HS at Kiev CV
02:30:28 = Kiev CV was hit by Dille's Mark 48 HS
02:31:04 = Slava CG was hit by Dille's Mark 48 WH
02:31:58 = Kirov CGH fired a SS-N-14 Missile at Dille
02:32:18 = Dille was hit by Kirov CGH's SS-N-14 Missile

02:32:26 = damage control report: torpedo tube damaged
 02:33:28 = Kirov CGH fired a SS-N-14 Missile at Dille
 02:34:18 = Dille dropped a noisemaker
 02:35:06 = Dille dropped a noisemaker
 02:38:06 = Dille dropped a noisemaker
 02:44:52 = Dille fired a Mark 48 HS at Slava CG
 02:46:52 = Slava CG was hit by Dille's Mark 48 HS
 02:46:54 = Slava CG was destroyed by Dille
 02:49:22 = Dille fired a Mark 48 LR at Kiev CV
 02:52:38 = Dille fired a Tomahawk at Kirov CGH
 02:52:44 = Dille fired a Tomahawk at Kirov CGH
 02:52:58 = Kirov CGH was hit by Dille's Tomahawk
 02:53:04 = Kirov CGH was hit by Dille's Tomahawk
 02:53:06 = Kirov CGH was destroyed by Dille
 02:53:24 = Kiev CV was hit by Dille's Mark 48 LR
 02:53:26 = Kiev CV was destroyed by Dille
 02:53:30 = logbook entry and status report:
 mission successfully completed

Figure 6-1 The first objective is the group to the northwest. Increase speed and drop below the thermal layer to start the approach. Aim for the baffles and match their course and speed once there.

Debrief and Lesson Learned

The initial phase of this mission proceeded rather smoothly. The *Seawolf* deployed the towed array at 150 feet and began to patrol in a northerly direction. The surface picture developed rapidly and it became apparent that CINCLANTFLT's spooks had given us a fair assessment of what to expect.

At time 00:25, the *Seawolf* came to attack depth to commence the attack on Kynda and Ivan Rogov from astern. Unfortunately, because *Seawolf* failed to slow down before she crossed the upper thermal layer, another enemy ship detected us and got off an SSN-14. At this point, we were already committed to the attack and had to delay our evasive maneuvers until the initial salvos were in the water.

The *Seawolf* broke off temporarily





Figure 6-2 The *Seawolf* lost the element of surprise by failing to slow down before coming to attack depth.

then re-engaged at the first opportunity. At time 00:56, the *Seawolf* was approaching the Kresta I from the baffles. A two-shot salvo was fired at a range of approximately 2 miles. The Kresta I accelerated and changed course twice, dropping a noisemaker at the second turn. The decoy confused one of our torpedoes momentarily, but it reacquired and continued to the target after the first torpedo hit.

With the original members of the first Soviet group dispatched, the *Seawolf* headed west to reacquire and engage the second Soviet task force. Approximately 40 minutes were required to locate and engage the Sovremenny on trailing ASW picket. Subsequently, a prolonged engagement with Slava, Kirov, and Kiev occurred just before their escape to open ocean.

The second Soviet task force was crippled by multiple torpedoes and finished with a combination of missiles and torpedoes. During the engagement, the *Seawolf* suffered additional damage, but managed



Figure 6-3 Warships will use speed, course changes, and an occasional noisemaker when attempting to evade torpedoes.

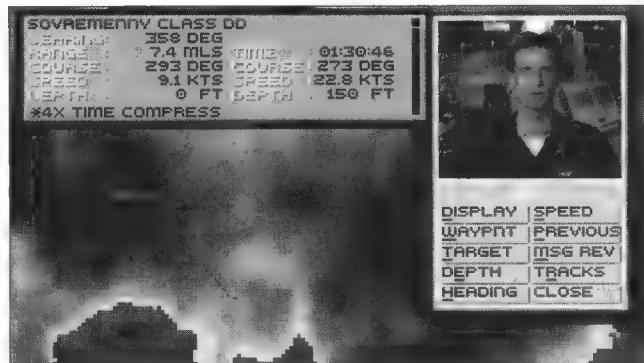


Figure 6-4 The *Seawolf* had to overtake the retreating Soviet task force.

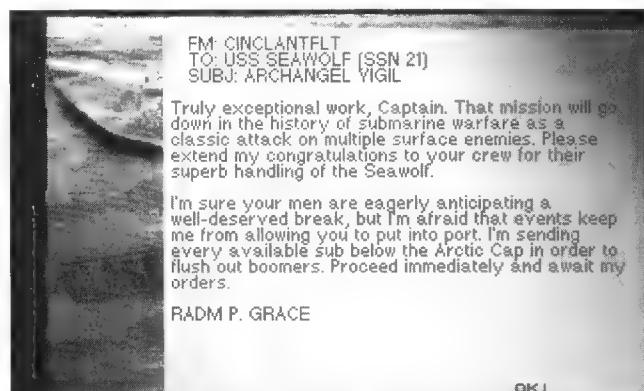


Figure 6-5 The Admiral shares a few choice words with the crew.

to avoid a potentially fatal third torpedo hit by spacing three noisemaker drops 3 minutes apart and shifting layers and courses immediately after each drop. The Soviets seem to be getting more adept at finding us, but we also seem to be getting somewhat better at avoiding their ordnance.



MISSION EIGHT: CHILLY RECEPTION

Situation Report

Some of the latest Soviet SSBNs are lurking beneath the polar ice cap. Their missile inventories are capable of reaching assigned targets in the continental United States without the submarines' having to transit the killing grounds off the U.S. coastline, where many of the older boomers must go to be within striking distance. This nuclear threat must be eliminated to provide additional bargaining power to Allied diplomats.

Intelligence Report

SOSUS monitoring of the arctic region indicates the presence of multiple SSBN and SSN assets. The latter are acting as guard dogs for the boomers, and will usually be found in close proximity to their charges. Exact hull classification has not yet been possible, but analysts have reason to believe the Soviet Order of Battle (OOB) looks something like this:

- 1 Victor class SSN
- 1 Typhoon class SSBN
- 1 Delta I class SSBN
- 1 Delta II class SSBN
- 1 Delta III class SSBN

The two older Delta boats should be considered "soft" targets (i.e., relatively easy to find and kill); the others are hard targets. Expect to employ a minimum of three Mk 48s to achieve a mission kill on the Typhoon.

Synopsis of Orders

Proceed under the ice cap for independent ASW operations against Soviet strategic assets. Detect, engage, and destroy the four SSBNs suspected to

be operating in the area. Keep a weather eye out for the Soviet Victor and any other linebackers that may be present. Engage these assets in self-defense, or as a preliminary measure, provided that their destruction will not jeopardize accomplishment of the primary objective. Depart and re-establish communications upon completion of the engagement.

Rules of Engagement

Warning Red, Weapons Free. Engage subsurface contacts at will.

Executive Officer's Comments

Captain, this is a tough one to predict. I think we need to hug the bottom, say a 1,000-foot minimum, and do a slow towed-array sweep of the area. Chances are we'll pick up the older Delta boats first, because the shielding on their power plants is poor. The normal inclination at that point would be to begin the engagement, but I don't recommend it under these conditions.

Let's hold off once we have contact on them for about 10 to 15 minutes more to see what else pops up. If we get a fix on the Victor or the Delta III in that time, we will go after these units as well in the initial attack. The Typhoon will be the hardest to locate, and will probably take most of our concentration to kill. Therefore, I recommend we go after the others first and save the best for last.

The Captain's Log

Mission time: 01:12:30

Ships destroyed: 0

Subs destroyed: 5

Torpedoes used: 17

Torpedoes hit: 10

Torpedoes evaded: 0

Torpedoes hit us: 1

Noisemakers used: 3

Active sonar: 0

Ident. right/wrong: 0/0

00:23:50 = Dille fired a Mark 48 LR at Delta I SSBN

00:23:52 = Dille fired a Mark 48 LR at Delta I SSBN
00:26:40 = Delta I SSBN dropped a noisemaker
00:28:18 = Delta I SSBN was hit by Dille's Mark 48 LR
00:28:38 = Delta I SSBN was destroyed by Dille
00:37:50 = Dille fired a Mark 48 LR at Delta II SSBN
00:37:58 = Dille fired a Mark 48 LR at Delta II SSBN
00:40:44 = Dille fired a Mark 48 HS at Delta III SSBN
00:40:52 = Dille fired a Mark 48 HS at Delta III SSBN
00:42:02 = Delta III SSBN was hit by Dille's Mark 48 HS
00:42:10 = Delta III SSBN was hit by Dille's Mark 48 HS
00:42:20 = Delta II SSBN dropped a noisemaker
00:42:30 = Delta III SSBN was destroyed by Dille
00:46:32 = Delta II SSBN dropped a noisemaker
00:46:58 = Delta II SSBN was hit by Dille's Mark 48 LR
00:48:50 = Dille fired a Mark 48 LR at Delta II SSBN
00:51:34 = Victor I SSN fired a Type 53 LR at secondary waypoint
00:52:02 = Victor I SSN fired a Type 53 LR at secondary waypoint
00:52:36 = Victor I SSN dropped a noisemaker
00:52:54 = Dille fired a Mark 48 LR at Typhoon SSBN
00:53:00 = Dille fired a Mark 48 LR at Typhoon SSBN
00:53:36 = Dille fired a Mark 48 HS at Delta II SSBN
00:53:42 = Dille fired a Mark 48 HS at Delta II SSBN
00:54:42 = Dille dropped a noisemaker
00:55:34 = Delta II SSBN dropped a noisemaker
00:56:04 = Delta II SSBN was hit by Dille's Mark 48 HS
00:56:12 = Dille fired a Mark 48 HS at Victor I SSN
00:56:16 = Dille fired a Mark 48 HS at Victor I SSN
00:56:24 = Delta II SSBN was destroyed by Dille
00:56:46 = Typhoon SSBN dropped a noisemaker
00:57:40 = Victor I SSN dropped a noisemaker
00:58:28 = Victor I SSN was hit by Dille's Mark 48 HS
00:58:34 = Victor I SSN was hit by Dille's Mark 48 HS
00:58:54 = Victor I SSN was destroyed by Dille
01:00:38 = Dille fired a Mark 48 LR at Typhoon SSBN
01:01:00 = Dille was hit by Dille's Mark 48 LR
01:01:18 = damage control report: electrical fire
01:02:28 = Typhoon SSBN dropped a noisemaker

01:06:44 = Typhoon SSBN dropped a noisemaker
01:07:38 = Dille fired a Mark 48 HS at Typhoon SSBN
01:07:38 = Dille fired a Mark 48 HS at Typhoon SSBN
01:08:18 = Dille dropped a noisemaker
01:08:54 = Typhoon SSBN was hit by Dille's Mark 48 HS
01:08:54 = Typhoon SSBN was hit by Dille's Mark 48 HS
01:10:06 = Dille fired a Mark 48 HS at Typhoon SSBN
01:11:48 = Typhoon SSBN was hit by Dille's Mark 48 HS
01:12:08 = Typhoon SSBN was destroyed by Dille
01:12:22 = Dille dropped a noisemaker
01:12:30 = logbook entry and status report:
mission successfully completed

Debrief and Lessons Learned

As expected, first contact was held on Deltas I and II. Per the executive officer's battle plan, 20 minutes elapsed prior to the initial attack. During that time, contact was gained on all of the targets of interest except the Typhoon, as was expected. The initial salvo found the Delta I an easy mark, but the Delta II demonstrated amazing resilience, maneuvering expertly and confusing the initial salvo with noisemakers and course changes. While she was actively evading our shots, we had the opportunity to get off an attack on the Delta III.

Subsequently, the Delta II had turned back toward the *Seawolf* in her relatively successful evasion of the first torpedo group. Two additional high-speed fish were prepared and launched on the bow to try and catch her between a rock and a hard place. At time 00:51, this followup attack appeared to be conclusive, but the Delta II continued to evade and remained



Figure 6-6 The Delta III surprised us by turning out to be an easier target than the Delta II.

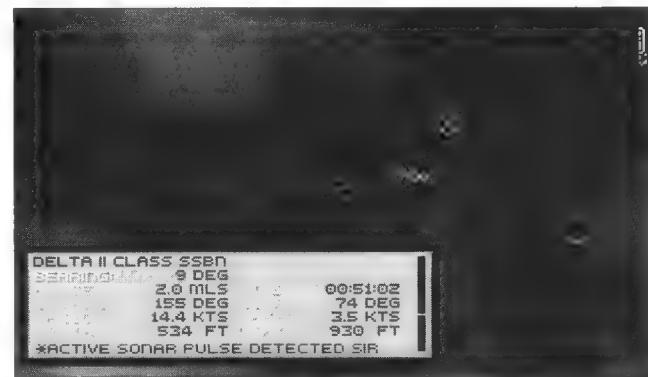


Figure 6-7 The beginning of the end for the resolute crew of the Delta II SSBN

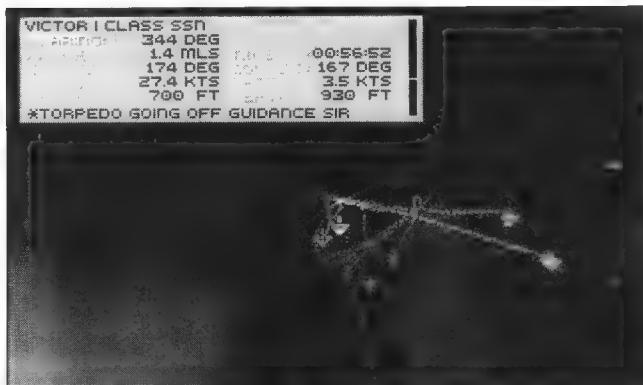


Figure 6-8 Seawolf attacks the remaining targets simultaneously.

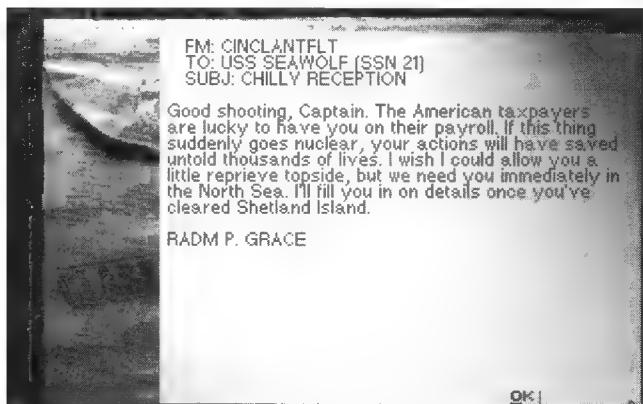


Figure 6-9 Successful missions yield praise, but additional tasking as well. The better you are, the more they expect of you.

a threat until her destruction at time 00:56.

While these torpedoes ran their course, the *Seawolf* confirmed the established tracks of the Victor I and the Typhoon, and maneuvered into position for a dual attack. The rationale behind attempting to take both targets at the same time was to prevent one of the enemy boats from taking an unharassed shot at the *Seawolf* while she concentrated on the other target. These shots also took place at time 00:56.

The Typhoon proved to be as thick-skinned as rumored. Fortunately, by keeping a lot of ordnance in the water, we prevented her from making any kind of coherent counterattack. Once these contacts were eliminated, the *Seawolf* cleared the area to the southwest and re-established communications with COMSUBLANT for further tasking. Figure 6-9 shows the response we received.

MISSION NINE: NORTH SEA MELEE

Situation Report

Soviet task forces frequently transit the North Sea as they proceed from the Baltic to the arctic regions. In the past, as long as no hostile moves were made, these ships were allowed free passage. Currently, however, a small British task force is engaged in a running battle with a larger, more capable Soviet group. It is only a matter of time before the Soviets prevail unless further action is taken. Therefore, COMSUBLANT is responding to a request for assistance from the British Admiralty by sending the *Seawolf* in to assist the beleaguered British combatants.

Intelligence Report

Because the engagement has already been joined, we have the benefit of perfect intelligence for this assignment. The British group consists of two Edinburgh class DDH and two Amazon class FFG escorts. Arrayed against this ill-protected force are the following ships:

- 1 Slava class CG
- 1 Sovremenny class DD
- 2 Krivak class FFG

The Slava, with her complement of 16 SSN-12 missiles, is definitely the heavy hitter in the group, and should be the first priority for the *Seawolf*'s attack. In addition, because both groups have been exchanging anti-ship cruise missile (ASCM) volleys for a period of time now, SAM inventories are known to be depleted.

Synopsis of Orders

Locate the Soviet task force and destroy it, before it succeeds in doing the same to the British group. Time is of the essence, but the possibility of blue-on-blue engagements makes it necessary for you to properly identify all targets before launching ordnance. Numerous friendly and neutral merchant vessels are also known to be in the area, so be especially careful to avoid inadvertent destruction of foreign-flag shipping. The latter could draw third parties into the conflict on the Soviet side and complicate the political situation further.

Rules of Engagement

Warning Red, Weapons Tight. Hold fire until targets are classified hostile.

Executive Officer's Comments

The Soviets will certainly be preoccupied with the surface and air engagements in progress, so I think we can afford to take a few more chances than we normally would. Let's go immediately to periscope depth upon gaining any contact and visually assess the situation. If we hold contact on the Soviets, an urgent missile attack seems in order. There are four targets and four missiles in our inventory; it seems like a perfect match.

The tactic will probably work, but we can also expect some immediate counter-battery fire before our missiles strike home. If we keep the towed array on board, we ought to be able to kick it up to full or flank as soon as birds are away and drop a few noisemakers on the way out of Dodge, dropping back below the first thermal layer in the process. The use of high speed shouldn't pose an additional concern, because Intelligence told us that these four ships were the only Soviet units in the area.

The Captain's Log

Mission time: 00:13:00

Ships destroyed: 4

Subs destroyed: 0

Torpedoes used: 0

Torpedoes hit: 0

Torpedoes evaded: 1

Torpedoes hit us: 2

Noisemakers used: 1

Active sonar: 0

Ident. right/wrong: 0/0

00:00:48 = Krivak I FFG fired an Anti-Ship Missile at Merchant Ship Type 1

00:00:52 = Sovremenny DD fired an Anti-Ship Missile at Merchant Ship Type 1

00:00:54 = Slava CG fired an Anti-Ship Missile at Merchant Ship Type 1

00:01:08 = Merchant Ship Type 1 was hit by Slava CG's Anti-Ship Missile

00:01:08 = Krivak II FFG fired an Anti-Ship Missile at Merchant Ship Type 1

00:01:12 = Merchant Ship Type 1 was hit by Krivak II FFG's Anti-Ship Missile

00:01:14 = Merchant Ship Type 1 was destroyed by Krivak II FFG

00:05:24 = Sovremenny DD fired an Anti-Ship Missile at Edinburgh DDH

00:05:24 = Slava CG fired an Anti-Ship Missile at Edinburgh DDH

00:05:24 = Dille fired a Harpoon at Krivak I FFG

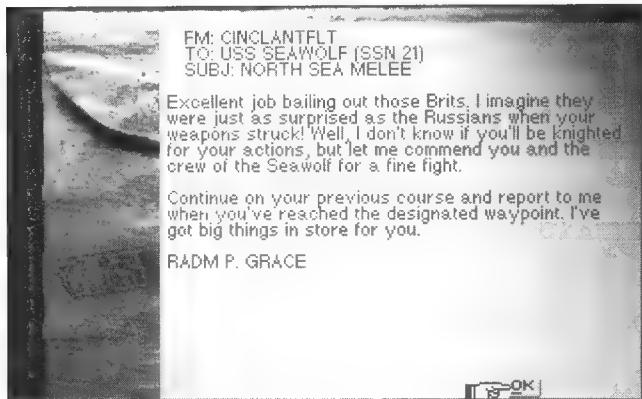
00:05:40 = Krivak II FFG fired an Anti-Ship Missile at Edinburgh DDH

00:05:44 = Krivak I FFG was hit by Dille's Harpoon
00:05:44 = Edinburgh DDH was hit by Krivak II FFG's Anti-Ship Missile
00:05:44 = Edinburgh DDH was hit by Krivak II FFG's Anti-Ship Missile
00:05:46 = Edinburgh DDH was destroyed by Krivak II FFG
00:06:04 = Krivak I FFG was destroyed by Dille
00:08:24 = Krivak II FFG fired ann SS-N-14 Missile at Dille
00:08:42 = Slava CG fired an SS-N-14 Missile at Dille
00:08:56 = Dille fired a Harpoon at Krivak II FFG
00:09:00 = Sovremenny DD fired an SS-N-14 Missile at Dille
00:09:16 = Krivak II FFG was hit by Dille's Harpoon
00:09:36 = Krivak II FFG was destroyed by Dille
00:09:58 = logbook entry and status report: the towed array was cut
00:10:20 = Dille dropped a noisemaker
00:10:40 = Dille was hit by Slava CG's SS-N-14 Missile
00:10:50 = Dille was hit by Sovremenny DD's SS-N-14 Missile
00:10:56 = damage control report: electrical fire
00:11:06 = Dille fired a Tomahawk at Sovremenny DD
00:11:26 = Sovremenny DD was hit by Dille's Tomahawk
00:11:46 = Sovremenny DD was destroyed by Dille
00:12:18 = Dille fired a Tomahawk at Slava CG
00:12:38 = Slava CG was hit by Dille's Tomahawk
00:12:44 = Slava CG fired a SS-N-14 Missile at Dille
00:12:58 = Slava CG was destroyed by Dille
00:13:00 = logbook entry and status report:
mission successfully completed

Debrief and Lessons Learned

This was a textbook case of catching them with their pants down. Upon initial contact, a concentrated group of surface ships was located almost due East of the *Seawolf*'s position. At periscope depth, these units turned out to be the contacts of interest and the engagement began. The *Seawolf* rapidly switched from targeting to launch for each contact in turn, then began the executive officer's evasion plan.

We could have avoided damage altogether if there had been enough

**Figure 6-10**

The *Seawolf* saves the day. You can count on some good liberty the next time she pulls into the U.K.

time to set up a submerged torpedo attack, but the Soviets were too far along in their pounding of the Brits to take the time to set that up. All's well that ends well, however, and most of our allies made it home unscathed, while their pursuers were not so fortunate.



MISSION TEN: THREAD THE SKAG

Situation Report

Until three days ago, Soviet surface traffic in the Norwegian waters around the Skagerrak and Kattegat Seas had been successfully interdicted by non-Soviet control of the surrounding land masses. Unfortunately, this situation has changed because a massive Soviet airborne and amphibious assault has swiftly captured most of Denmark and Sweden. If left unchecked, Soviet ASW efforts in these waters could impede NATO transit routes to the Baltic and other operational areas on the northern flank. The *Seawolf* is being diverted briefly while en route to the Baltic to disrupt the Soviet naval presence in any way possible.

Intelligence Report

Satellite data suggest that the *Seawolf* is in an ideal position to intercept a number of Soviet frigates and support ships operating in the region. ELINT data confirm that the following units are part of this task force:

- 2 Krivak class FFG
- 2 Mirka class FFL
- 2 Nanuchka class FFL
- 2 Ivan Rogov class LPD
- 1 Sayany salvage and rescue ship
- 1 Alligator class LST

There are also unconfirmed reports that the *Moskva* is operating in the vicinity, so you must remain alert to the possibility of an airborne ASW threat. In addition, infrared imaging confirmed the presence of a Victor class SSN in the area just 2 days ago. Since that report, he has remained unlocated. Finally, some of the Soviet ships have also been observed conducting mine-laying operations since the invasion.

Synopsis of Orders

Detect, track, and engage the Soviet frigates. Destroy other targets of opportunity as conditions allow. Do not linger in the area of operations to prosecute secondary or tertiary objectives, because the *Seawolf*'s presence will be required in the Baltic very soon.

Rules of Engagement

Warning Red, Weapons Free. Conduct unrestricted ASuW.

Executive Officer's Comments

It's a good thing we replenished ordnance when we had a chance; this looks like a target-rich environment we're headed into. The only real threat appears to be the Victor SSN, but we don't have time to meander around looking for him before engaging the surface units. CINCLANT-FLT seemed pretty insistent that we wrap this one up quickly and move on to the Baltic tasking.

I think we can assess the initial situation from attack depth with the towed array. If my guess is right, the Soviet frigates will be conducting ASW search patterns in some kind of mutually supporting formation. This should work to our advantage, because we'll be able to engage a good number of them simultaneously. Once we have weapons in the water, we had better remain alert for that Victor. Chances are he will be homing in on the sound of our torps like a bee heading for the honey tree.

The Captain's Log

Mission time: 00:48:00

Ships destroyed: 11

Subs destroyed: 0

Torpedoes used: 20

Torpedoes hit: 15

Torpedoes evaded: 1

Torpedoes hit us: 0

Noisemakers used: 2

Active sonar: 0

Ident. right/wrong: 0/0

00:06:10 = Krivak I FFG fired a SS-N-14 Missile at Dille

00:06:10 = Dille fired a Mark 48 WH at Alligator 3 LST

00:06:30 = Dille dropped a noisemaker

00:06:32 = Dille fired a Mark 48 WH at Alligator 3 LST

00:08:08 = Dille fired a Mark 48 LR at Ivan Rogov LPD

00:08:14 = Dille fired a Mark 48 LR at Ivan Rogov LPD

00:09:22 = Dille fired a Mark 48 WH at Ivan Rogov LPD

00:09:36 = Dille fired a Mark 48 WH at Ivan Rogov LPD

00:10:16 = Alligator 3 LST was hit by Dille's Mark 48 WH

00:10:28 = Alligator 3 LST was hit by Dille's Mark 48 WH

00:10:30 = Alligator 3 LST was destroyed by Dille

00:10:32 = Dille fired a Mark 48 WH at Sayany Salvage/Rescue

00:10:38 = Dille fired a Mark 48 WH at Sayany Salvage/Rescue

00:10:52 = Dille dropped a noisemaker

00:13:22 = Ivan Rogov LPD was hit by Dille's Mark 48 LR

00:13:24 = Ivan Rogov LPD was hit by Dille's Mark 48 LR

00:13:26 = Ivan Rogov LPD was destroyed by Dille

00:16:36 = Ivan Rogov LPD was hit by Dille's Mark 48 WH

00:16:42 = Ivan Rogov LPD was hit by Dille's Mark 48 WH

00:16:44 = Ivan Rogov LPD was destroyed by Dille

00:17:56 = Sayany Salvage/Rescue was hit by Dille's Mark 48 WH

00:17:58 = Sayany Salvage/Rescue was hit by Dille's Mark 48 WH

00:18:00 = Sayany Salvage/Rescue was destroyed by Dille

00:21:38 = Dille fired a Mark 48 WH at Mirka II FFL

00:24:46 = Mirka II FFL dropped a noisemaker

00:27:32 = Dille fired a Mark 48 HS at Mirka II FFL

00:28:28 = Mirka II FFL was hit by Dille's Mark 48 HS

00:28:48 = Mirka II FFL was destroyed by Dille

00:29:08 = Dille fired a Mark 48 LR at Nanuchka III FFL

00:31:02 = Dille fired a Mark 48 WH at Krivak I FFG

00:32:14 = Dille fired a Mark 48 WH at Mirka II FFL
00:33:04 = Dille fired a Mark 48 LR at Nanuchka III FFL
00:34:12 = Krivak II FFG dropped a noisemaker
00:35:28 = Mirka II FFL dropped a noisemaker
00:35:42 = Nanuchka III FFL dropped a noisemaker
00:37:08 = Dille fired a Mark 48 HS at Krivak II FFG
00:37:36 = Nanuchka III FFL dropped a noisemaker
00:37:58 = Krivak I FFG dropped a noisemaker
00:38:08 = Dille fired a Mark 48 HS at Mirka II FFL
00:38:42 = Krivak II FFG was hit by Dille's Mark 48 HS
00:39:28 = Mirka II FFL was hit by Dille's Mark 48 HS
00:39:48 = Mirka II FFL was destroyed by Dille
00:40:32 = Krivak II FFG was hit by Dille's Mark 48 WH
00:40:34 = Krivak II FFG was destroyed by Dille
00:40:58 = Dille fired a Mark 48 HS at Krivak I FFG
00:42:04 = Krivak I FFG was hit by Dille's Mark 48 HS
00:42:24 = Krivak I FFG was destroyed by Dille
00:43:34 = Dille fired a Mark 48 HS at Nanuchka III FFL
00:44:10 = Nanuchka III FFL was hit by Dille's Mark 48 HS
00:44:20 = Nanuchka III FFL was hit by Dille's Mark 48 LR
00:44:22 = Nanuchka III FFL was destroyed by Dille
00:46:12 = Dille fired a Tomahawk at Moskva CGH
00:46:14 = Victor II SSN fired a Type 53 LR at Dille
00:46:18 = Dille fired a Tomahawk at Moskva CGH
00:46:32 = Moskva CGH was hit by Dille's Tomahawk
00:46:38 = Moskva CGH was hit by Dille's Tomahawk
00:46:40 = Moskva CGH was destroyed by Dille
00:46:42 = Victor II SSN fired a Type 53 LR at Dille
00:47:02 = Dille fired a Harpoon at Nanuchka III FFL
00:47:22 = Nanuchka III FFL was hit by Dille's Harpoon
00:47:32 = Dille fired a Sea Lance at Victor II SSN
00:47:38 = Dille fired a Sea Lance at Victor II SSN
00:47:42 = Nanuchka III FFL was destroyed by Dille
00:47:56 = Victor II SSN dropped a noisemaker
00:48:00 = logbook entry and status report:
mission successfully completed



Figure 6-11 The *Seawolf* has completed her attack on the support ships and is lining up her shots on the Frigate group.



Figure 6-12 The *Seawolf* engages four targets simultaneously. The secret of success is weapons in the water, and lots of them.



Figure 6-13 In the absence of SSN-14-capable units, the *Seawolf* can use her cruise missiles with impunity.

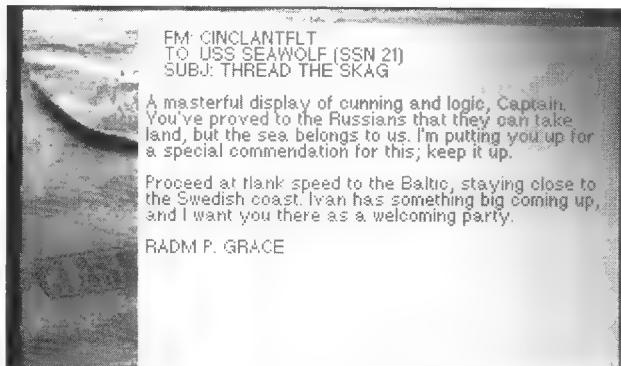
Debrief and Lessons Learned

The proximity of the amphibious and support ships at problem start dictated the pursuit of the initial attack against these assets. Please note, however, that one of the Krivaks succeeded in getting off a snap shot at us just as we were launching the first salvo. This indicates heightened awareness of the ASW threat among the Soviet crews. Our successes so far, however sweet, have yielded a negative dividend. It will get tougher and tougher for us to repeat them.

The initial volley was over at approximately 00:19. *Seawolf* had managed to evade the SSN-14 attack by launching noisemakers and changing course and depth after each launch. The primary objective, six frigates in formation, lay just off the port bow. Six tubes were loaded with a mixture of wake homer and long-range Mk 48s, with the exception of one high-speed, earmarked for a Mirka FFL that was coming too close to the *Seawolf*'s position. When all the contacts came within 4 miles, the salvo was launched.

Once the first attack on the frigates had been pressed home, it became apparent that the Soviets didn't have any SSN-14 shooters left. Therefore, we felt safe in coming to periscope depth to take out the remaining targets with cruise missiles. Just as these attacks were being ordered, the Victor SSN appeared out of nowhere, just seconds away from attack position. A quick reaction on the part of Weapons Control Officer suppressed the Victor with two Sea Lance shots.

The results of the urgent attack on the Victor are unknown, but contact was lost for the remainder of the engagement. As such, he is presumed dead, but cannot be recorded as a confirmed kill for the record. While this may be a bit of a disappointment, its negative effects are minor in comparison to the havoc we wrecked elsewhere. Our action should aid the cause of the Norwegian freedom fighters considerably.



FM: CINCLANTFLT
TO: USS SEAWOLF (SSN 21)
SUBJ: THREAD THE SKAG

A masterful display of cunning and logic, Captain. You've proved to the Russians that they can take land, but the sea belongs to us. I'm putting you up for a special commendation for this; keep it up.

Proceed at flank speed to the Baltic, staying close to the Swedish coast. Ivan has something big coming up, and I want you there as a welcoming party.

RADM P. GRACE

Figure 6-14 The *Seawolf* is on a streak! Too bad combat pay is only an extra \$100 per month.



MISSION ELEVEN: SWEDEN BOUND

Situation Report

Soviet amphibious forces are currently in a staging area near the islands of Gotland and Oland, presumably in preparation for a full-scale assault on Sweden. The Soviet invasion group must be prevented from achieving this objective at all costs. Currently the force is split into two groups, either of which is capable of reinforcing the Russian beachhead sufficiently to overcome NATO ground resistance in this area.

Intelligence Report

The bad news is that the Soviet invasion force is supported by at least two attack boats, a Victor and a November SSN. The good news is that they have no idea the *Seawolf* will be in the area, so they're vulnerable to a surprise attack. The amphibious invasion force is known to be composed of the following units, split into two groups:

- 4 Ivan Rogov LPD
- 2 Alligator class LST
- 2 Sayany salvage ships
- 6 miscellaneous cargo, tanker, and supply ships

CINCLANTFLT is sending SEAL teams to commandeer the merchants and all of their cargo after the *Seawolf* eliminates the Soviet military units. Therefore, do not engage these ships under any circumstances.

Synopsis of Orders

Position the *Seawolf* between the islands of Gotland and Oland and wait in ambush for the group of Ivan Rogov LPDs. Take them all out as soon as they come within range. While conducting ASuW, remain alert to the possible presence of Soviet SSN assets.

Rules of Engagement

Warning Red, Weapons Free for Soviet military shipping. Warning White, Weapons Tight for commercial and merchant shipping, regardless of their current mission.

Executive Officer's Comments

I don't think you'll need much help with this mission, Captain—it looks like a straightforward Sea Denial engagement. With your permission, sir, I'm going below to catch a few winks so I can be rested when you need me again.

The Captain's Log

Mission time: 00:20:00

Ships destroyed: 8

Subs destroyed: 1

Torpedoes used: 14

Torpedoes hit: 11

Torpedoes evaded: 2

Torpedoes hit us: 1

Noisemakers used: 3

Active sonar: 0

Ident. right/wrong: 0/0

00:08:00 = Dille fired a Mark 48 WH at Ivan Rogov LPD

00:08:00 = Dille fired a Mark 48 WH at Ivan Rogov LPD

00:08:34 = Dille fired a Mark 48 WH at Ivan Rogov LPD

00:08:38 = Dille fired a Mark 48 WH at Ivan Rogov LPD

00:09:24 = Dille fired a Mark 48 WH at Ivan Rogov LPD

00:09:30 = Dille fired a Mark 48 WH at Ivan Rogov LPD

00:11:48 = Dille fired a Sea Lance at November SSN

00:11:54 = Dille fired a Sea Lance at November SSN
00:12:28 = Dille fired a Harpoon at Alligator 3 LST
00:12:48 = Alligator 3 LST was hit by Dille's Harpoon
00:12:54 = November SSN was hit by Dille's Sea Lance
00:13:02 = Dille fired a Harpoon at Alligator 3 LST
00:13:04 = Ivan Rogov LPD was hit by Dille's Mark 48 WH
00:13:06 = Ivan Rogov LPD was hit by Dille's Mark 48 WH
00:13:08 = Alligator 3 LST was destroyed by Dille
00:13:08 = Ivan Rogov LPD was destroyed by Dille
00:13:14 = November SSN was destroyed by Dille
00:13:22 = Alligator 3 LST was hit by Dille's Harpoon
00:13:42 = Alligator 3 LST was destroyed by Dille
00:13:48 = Victor II SSN fired a SS-N-15 Missile at Dille
00:13:52 = Dille fired a Tomahawk at Sayany Salvage/Rescue
00:14:00 = Ivan Rogov LPD was hit by Dille's Mark 48 WH
00:14:02 = Ivan Rogov LPD was hit by Dille's Mark 48 WH
00:14:06 = Ivan Rogov LPD was hit by Dille's Mark 48 WH
00:14:06 = Ivan Rogov LPD was hit by Dille's Mark 48 WH
00:14:08 = Ivan Rogov LPD was destroyed by Dille
00:14:08 = Ivan Rogov LPD was destroyed by Dille
00:14:12 = Sayany Salvage/Rescue was hit by Dille's Tomahawk
00:14:32 = Sayany Salvage/Rescue was destroyed by Dille
00:14:58 = Dille fired a Tomahawk at Sayany Salvage/Rescue
00:15:00 = Victor II SSN fired a Type 53 LR at Dille
00:15:18 = Sayany Salvage/Rescue was hit by Dille's Tomahawk
00:15:28 = Victor II SSN fired a Type 53 LR at Dille
00:15:38 = Sayany Salvage/Rescue was destroyed by Dille
00:15:52 = Dille was hit by Victor II SSN's SS-N-15 Missile
00:15:56 = Dille fired a Mark 48 WH at Ivan Rogov LPD
00:15:58 = Dille fired a Mark 48 WH at Ivan Rogov LPD
00:16:04 = Dille dropped a noisemaker
00:16:12 = damage control report: electrical fire
00:18:06 = Dille dropped a noisemaker
00:18:18 = Dille fired a Mark 48 HS at Victor II SSN
00:18:22 = Dille fired a Mark 48 HS at Victor II SSN
00:18:52 = Dille fired a Mark 48 LR at Victor II SSN
00:19:00 = Dille fired a Mark 48 LR at Victor II SSN
00:19:02 = Dille dropped a noisemaker
00:19:38 = Victor II SSN dropped a noisemaker

00:19:46 = Ivan Rogov LPD was hit by Dille's Mark 48 WH
 00:19:46 = Ivan Rogov LPD was hit by Dille's Mark 48 WH
 00:19:46 = Victor II SSN was hit by Dille's Mark 48 HS
 00:19:46 = logbook entry and status report: the towed array was cut
 00:19:48 = Ivan Rogov LPD was destroyed by Dille
 00:19:48 = Victor II SSN was hit by Dille's Mark 48 HS
 00:20:00 = logbook entry and status report:
 mission successfully completed

Debrief and Lessons Learned

Because of the lack of prairie-masker or other sound-masking equipment, the *Seawolf* gained passive contact on both Soviet groups at an extreme range. Therefore, the decision was made to continue west to close with the



Figure 6-15 Don't rush to initiate attacks at extreme ranges.



Figure 6-16 Front three Ivan Rogovs are engaged with two wake homer Mk 48s each.

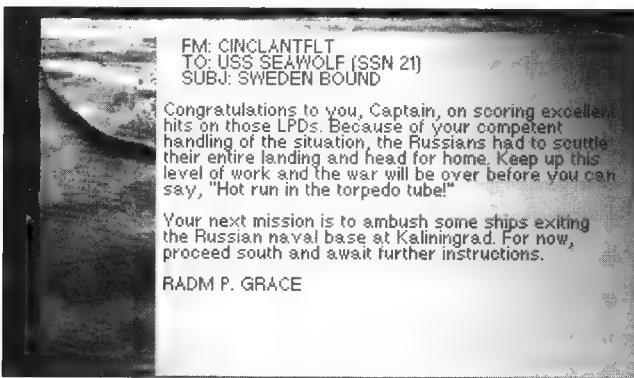


Figure 6-17 These things are nice, but how about a little Liberty instead?

northernmost of the two groups and allow the situation to develop further.

By the time the Soviet formation had closed to optimum weapons release range, both Soviet SSNs had also been located. A salvo of six wake homers, two each for the lead three Ivan Rogov ships, was prepared, as well as two Sea Lance missiles for the November SSN. It was decided to take the closer SSN, the Victor, with torpedoes shortly thereafter.

The remainder of the southern group was prosecuted with missiles, while a long-range ADCAP took the sole straggler in the north. The Victor was engaged successfully but, once again, we did not receive a confirmed kill for the battle record. The important thing to remember, however, is that we gave the Swedes a new lease on life. Hey, guys, do you think that means the Swedish bikini team will be dropping by to show their gratitude? A nice thought, but don't bet on it. For now, we'll have to settle for the latest "G-gram."



MISSION TWELVE: BALTIC DUTY

Situation Report

Kalingrad is the main port and headquarters of the Soviet Baltic fleet. It is nestled deep within a protected lagoon off the Gulf of Gdansk, where it provides resupply and repair services for the entire Soviet fleet. Because of the heavy traffic in and out of this facility, CINCLANTFLT views it as a prime area in which to disrupt the Soviet naval momentum. The *Seawolf* is being sent into the region to damage or cripple as many Soviet warships as possible without risking her own destruction. Enemy activity is expected to be heavy and counter-battery fire constant.

Intelligence Report

A CIA mole, working as a shipyard welder at Kalingrad, has confirmed that the Soviet fleet units in that port are preparing for a major offensive. COMSUBLANT has been directed by CINCLANTFLT to nip that operation in the bud. The HUMINT source confirmed the presence of the following units:

- 5 Sovremenny class DD
- 1 Moskva class CGH
- 1 Charlie class SSGN (SSN-15 refit complete)
- 2 Alligator class LST
- 2 Sayany class salvage ships

In addition, Kalingrad is known to be heavily mined with a combination of acoustic, contact, and captor mines. The *Seawolf* is directed to proceed with the utmost caution through these waters.

Synopsis of Orders

This is a complete offensive to preempt Soviet attempts at a breakout. The *Seawolf* is directed to engage any and all contacts, though particular emphasis should be given to eliminating the significant threat posed by the Sovremennys first. The *Seawolf* will be the only friendly in the area, so do not hesitate to expend any and all ordnance types to purge the area. Subtlety is not desired or encouraged in the attainment of these objectives. We want them to know that we can hit them hard and fast at the times of our choosing. Further, they no longer have a place to hide.

Rules of Engagement

Warning Red, Weapons Free. Conduct unrestricted ASW and ASUW operations.

Executive Officer's Comments

Well, it looks as if I got up from that nap just in time. We're going into the heart of it all now. With that many Sovremennys in the mix, we're going to have to do everything in our power to keep them from ganging up on us. The only way I know to do that is to keep them running away from torpedoes. Once we begin the initial attack, it would behoove us to "waste" some long-range shots simply to tie up the outer screening assets. We might get lucky and get some hits with these low-percentage shots but, at a minimum, they should buy us enough time and maneuvering room to set up more effective attacks.

The Captain's Log

Mission time: 00:36:00

Ships destroyed: 7

Subs destroyed: 0

Torpedoes used: 14

Torpedoes hit: 14

Torpedoes evaded: 0

Torpedoes hit us: 0

Noisemakers used: 0

Active sonar: 0

Ident. right/wrong: 0/0

00:10:48 = Dille fired a Mark 48 WH at Sovremenny DD
00:11:00 = Dille fired a Mark 48 WH at Sovremenny DD
00:11:32 = Dille fired a Mark 48 WH at Sovremenny DD
00:11:32 = Dille fired a Mark 48 WH at Sovremenny DD
00:13:52 = Sovremenny DD dropped a noisemaker
00:15:12 = Sovremenny DD was hit by Dille's Mark 48 WH
00:15:56 = Sovremenny DD dropped a noisemaker
00:17:04 = Dille fired a Mark 48 LR at Alligator 3 LST
00:17:04 = Sovremenny DD was hit by Dille's Mark 48 WH
00:17:10 = Sovremenny DD was hit by Dille's Mark 48 WH
00:17:12 = Sovremenny DD was destroyed by Dille
00:17:14 = Dille fired a Mark 48 LR at Alligator 3 LST
00:17:58 = Sovremenny DD dropped a noisemaker
00:18:12 = Dille fired a Mark 48 LR at Sayany Salvage/Rescue
00:18:22 = Dille fired a Mark 48 LR at Sayany Salvage/Rescue
00:20:52 = Alligator 3 LST was hit by Dille's Mark 48 LR
00:21:00 = Alligator 3 LST was hit by Dille's Mark 48 LR
00:21:02 = Alligator 3 LST was destroyed by Dille
00:22:36 = Sovremenny DD was hit by Dille's Mark 48 WH
00:22:38 = Sovremenny DD was destroyed by Dille
00:22:44 = Dille fired a Mark 48 WH at Sovremenny DD
00:23:02 = Sayany Salvage/Rescue was hit by Dille's Mark 48 LR
00:23:08 = Sayany Salvage/Rescue was hit by Dille's Mark 48 LR
00:23:10 = Sayany Salvage/Rescue was destroyed by Dille
00:23:52 = Dille fired a Mark 48 LR at Sovremenny DD
00:27:50 = Dille fired a Mark 48 WH at Sovremenny DD
00:27:56 = Dille fired a Mark 48 LR at Sovremenny DD
00:28:24 = Sovremenny DD was hit by Dille's Mark 48 WH
00:29:20 = Sovremenny DD was hit by Dille's Mark 48 LR
00:29:22 = Sovremenny DD was destroyed by Dille
00:30:42 = Dille fired a Mark 48 WH at Sovremenny DD
00:30:46 = Dille fired a Mark 48 LR at Sovremenny DD
00:31:00 = Sovremenny DD was hit by Dille's Mark 48 LR
00:31:02 = Sovremenny DD was hit by Dille's Mark 48 WH
00:31:04 = Sovremenny DD was destroyed by Dille
00:32:02 = Sovremenny DD dropped a noisemaker
00:34:06 = Sovremenny DD was hit by Dille's Mark 48 LR
00:35:44 = Sovremenny DD was hit by Dille's Mark 48 WH

00:35:46 = Sovremenny DD was destroyed by Dille
 00:36:00 = logbook entry and status report:
 mission successfully completed

Debrief and Lessons Learned

This turned out to be a "quick and dirty" assignment, based on our proactive approach of keeping fish en route to their targets. One thing is certain—we were still lucky to get out of there without a scratch.

The tight screening by the Sovremennys could have been fatal under most circumstances, but we succeeded in splitting them up by conducting a preemptive attack before they switched to active sonar.

While the DDs danced with death (in the form of our torpedoes), the *Seawolf* dropped beneath the layer and increased speed to one-quarter power to close the range to the convoy. Once the two lead ships of the column were within 2 miles, the *Seawolf* slowed to bare steerageway and returned to attack depth. This position allowed multiple salvo attacks on the convoy, resulting in their complete destruction.

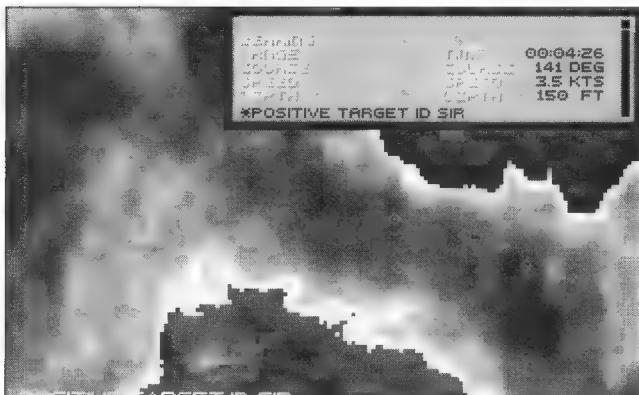


Figure 6-18 Initial contact revealed two Sovremenny class DDs conducting an ASW escort sweep for a column of support ships.

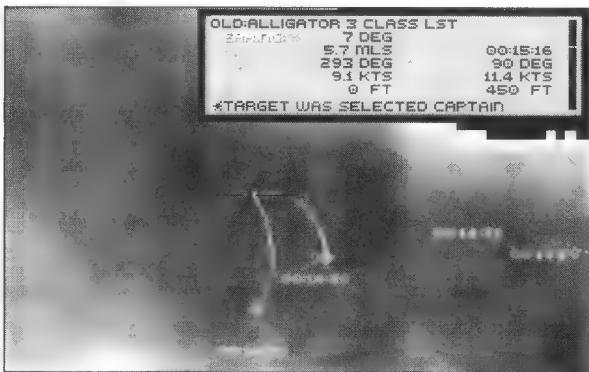


Figure 6-19 Engaging the Sovremennys to the south and east opened an avenue of approach to the convoy and kept them occupied throughout the ensuing attack.



Figure 6-20 Engage the convoy one by one as they come up the channel.

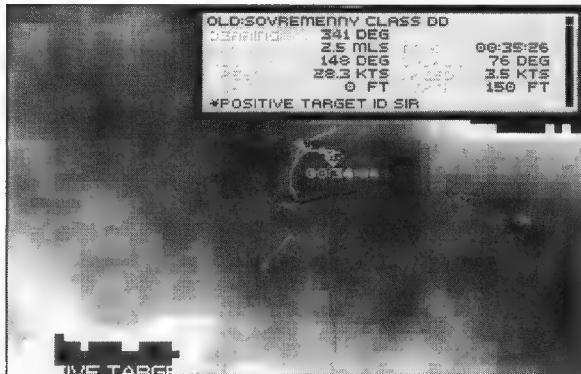


Figure 6-21 Setting up Phase Two, mopping up the stragglers.

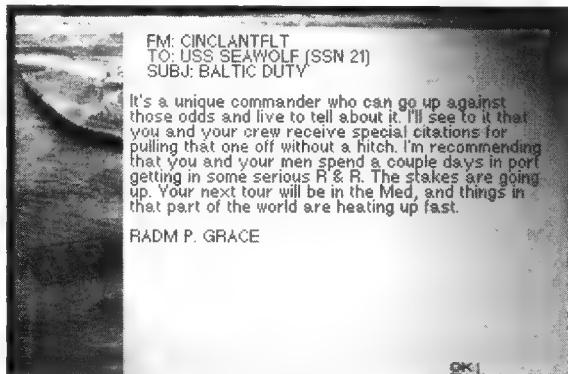


Figure 6-22 Warmer waters seem to be ahead for the crew of the *Seawolf*.

Immediately after the last convoy-bound fish left their tubes, the *Seawolf* turned west to reacquire the remaining Sovremennys and any other contacts of interest. The relative positions at this stage of the engagement are shown in Figure 6-21.

Apparently we had surprised the Soviets so completely that they never had the opportunity to locate our position and mount a counterattack. The lesson to take away from that experience is that fire and movement are synonymous with success. Further, our success seems to be far reaching enough that we will be able to get out of this frigid hellhole before too long. Check it out in the message traffic.



MISSION THIRTEEN: CHANNEL PURGE

Situation Report

A couple of rogue Soviet attack boats seem to have set up shop in the English Channel. The Royal Navy has been actively pursuing these intruders but, so far, they have had little success. Allied merchants are still being damaged and sunk at an unacceptable rate. CINCLANTFLT has ordered the *Seawolf* to assist RN assets in locating and destroying the enemy submarines while en route to her inchoate point for the Med.

Intelligence Report

The area is heavily trafficked by merchants, making it a prime hunting ground for the Soviet boats. One of the survivors of an attack earlier this week described a surface sighting of a submarine with missile doors open, unmistakably an Echo II SSGN. RN assets cannot confirm this sighting, but they have held intermittent acoustic contact on a November SSN, and one or more Victor class SSNs in the course of their operation.

Synopsis of Orders

The *Seawolf* will operate independently but in proximity to two RN Hunter-Killer submarines, a Trafalgar class SSN and a Rubis class SSN. These assets are aware of the *Seawolf*'s presence, but not her exact location at any given moment. Therefore, the possibility of blue-on-blue exists at all times, and in both directions. Find, localize and destroy the Soviet attack boats, then continue to station in the Med.

Rules of Engagement

Warning Red, Weapons Tight. Verify all subsurface contacts as hostile before firing. Be conscious of their proximity to friendly surface or subsurface contacts. Do not engage surface shipping at any time.

Executive Officer's Comments

This will probably be a game of “Now I see you, now I don’t.” Our first priority has got to be to fix the positions of the Brits. The last thing we want to do is inadvertently pop one of those guys while we’re surrounded by hostiles. I expect that at least some of the Soviets may be preoccupied with setting up shots on the merchants in the area, so we have some hope of catching them by surprise there. The emphasis has got to be on who shoots first and keeps the other guy on the run. Once the Soviet boats are at high speed, everyone can hear them miles away. Therefore, we may find ourselves in a situation in which our attacks drive the Soviets into the jaws of the Brits or vice versa.

The Captain's Log

Mission time: 00:28:30

Ships destroyed: 0

Subs destroyed: 3

Torpedoes used: 6

Torpedoes hit: 5

Torpedoes evaded: 0

Torpedoes hit us: 0

Noisemakers used: 0

Active sonar: 0

Ident. right/wrong: 0/0

00:07:08 = Dille fired a Mark 48 HS at Echo II SSGN

00:07:14 = Dille fired a Mark 48 HS at Echo II SSGN

00:08:12 = Echo II SSGN was hit by Dille's Mark 48 HS

00:08:20 = Echo II SSGN was hit by Dille's Mark 48 HS

00:08:40 = Echo II SSGN was destroyed by Dille

00:08:46 = November SSN fired an SS-N-15 Missile at Rubis SSN

00:10:06 = Trafalgar SSN fired a Sea Lance at November SSN

00:10:58 = Dille fired a Sea Lance at Victor II SSN

00:11:26 = Victor III SSN fired an SS-N-15 Missile at Trafalgar SSN

00:11:28 = Victor II SSN fired an SS-N-15 Missile at Trafalgar SSN

00:11:28 = November SSN fired an SS-N-15 Missile at Trafalgar SSN

00:11:28 = Dille fired a Mark 48 HS at Victor II SSN

00:11:32 = Dille fired a Mark 48 HS at Victor II SSN

00:11:36 = Rubis SSN was hit by November SSN's SS-N-15 Missile

00:11:54 = November SSN was hit by Trafalgar SSN's Sea Lance

00:12:10 = Victor II SSN dropped a noisemaker

00:12:14 = November SSN was destroyed by Trafalgar SSN

00:12:48 = Trafalgar SSN fired a Sea Lance at Victor III SSN

00:13:34 = Trafalgar SSN fired a Mark 48 LR at secondary waypoint

00:14:02 = Trafalgar SSN fired a Mark 48 LR at secondary waypoint

00:14:06 = Victor II SSN was hit by Dille's Mark 48 HS

00:14:08 = Victor II SSN was hit by Dille's Mark 48 HS

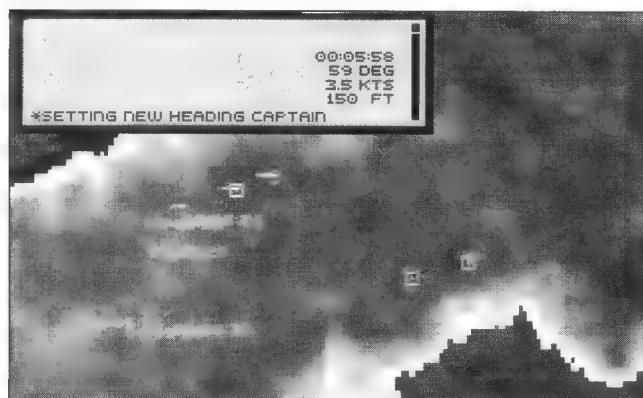
00:14:08 = Victor III SSN fired an SS-N-15 Missile at Trafalgar SSN
00:14:10 = Trafalgar SSN was hit by Victor III SSN's SS-N-15 Missile
00:14:12 = Trafalgar SSN was hit by Victor II SSN's SS-N-15 Missile
00:14:14 = Trafalgar SSN was destroyed by Victor II SSN
00:14:28 = Victor II SSN was destroyed by Dille
00:14:44 = Victor III SSN was hit by an unknown vessel's Sea Lance
00:17:10 = Rubis SSN was hit by an unknown vessel's SS-N-15 Missile
00:21:36 = Dille fired a Sea Lance at Victor III SSN
00:22:22 = Victor III SSN dropped a noisemaker
00:26:26 = Victor III SSN dropped a noisemaker
00:28:06 = Victor III SSN was hit by Dille's Sea Lance
00:28:26 = Victor III SSN was destroyed by Dille
00:28:30 = logbook entry and status report: mission successfully completed

Debrief and Lessons Learned

Figure 6-23 A near disaster! The Echo II almost escaped undetected into the *Seawolf's* baffles.

It was obvious that a dogfight was already in progress when the *Seawolf* slid into position to deploy the towed array. As soon as the first signals came in from that sensor, it became apparent that the Echo II was almost directly below the *Seawolf*, at a depth of 500 feet. Worse yet, she was just about to pass into our baffles. Two quick shots put the situation right and we started the engagement on a definite upbeat note.

Once the Echo II was destroyed, the *Seawolf* turned her full attention to the as yet unmolested Victor III, to the north. To minimize that submarine's reaction time, it was decided to conduct the initial prosecution with Sea Lance. In the meantime, the British sub remained undetected, but there were a lot of torpedoes in the water, so it seemed that they were occupying the other Soviet boats quite nicely.



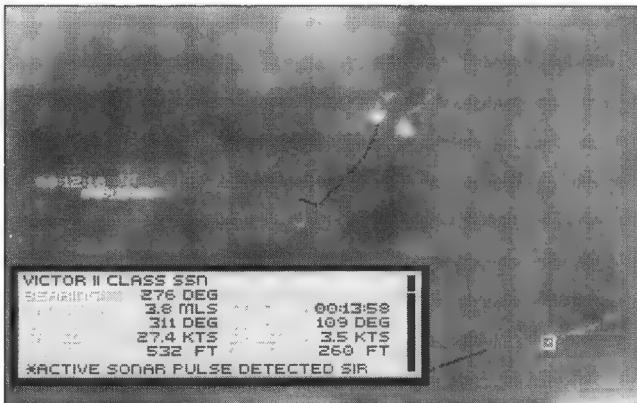


Figure 6-24 The Seawolf prosecutes the Victor III with Sea Lance.

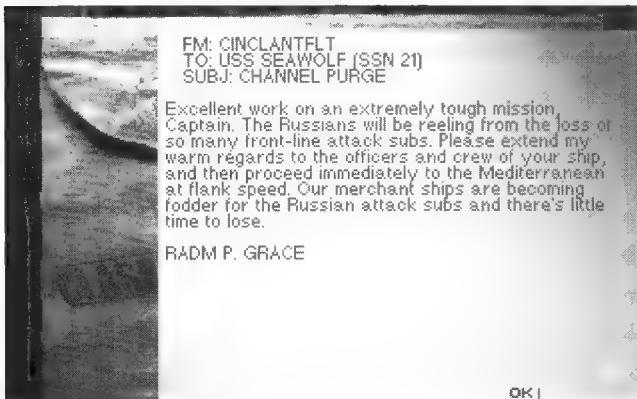
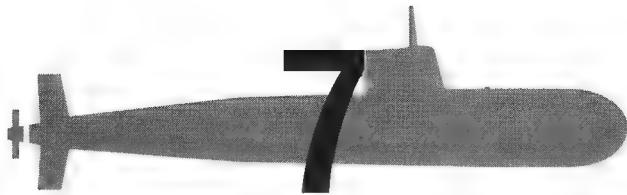


Figure 6-25 Admiral Grace always gets in the last word.

The remainder of the engagement was about as nice a piece of joint ASW as you can expect in a confusing situation like this. I can't think of a better way to conclude our tour up north than this, so Bravo Zulu to all hands. Let's take the next couple of days of transit time to put our other business in order and prepare for whatever Med tasking the big boys have in store for us.

That is all.





Mediterranean Nights

JCS THREAT BRIEFING



Gentlemen, just as the strategic situation in the North Atlantic and adjoining waters appears to have stabilized, Soviet forces in and around the Mediterranean have stepped up the offensive. CINCLANTFLT is in the process of shifting units between these two areas of operations to meet the new threat. The *Seawolf* will be spearheading the influx of new units to this area, not only because of her ability to operate in hostile waters safely, but also because her captain and crew have demonstrated exceptional skill up to this point. Truthfully, I feel we may owe these men a tremendous debt of gratitude once all this is over. Their successes on the field of battle have opened a number of strategic options to the Commander in Chief that could not even have been considered a few weeks ago.

Our position, both militarily and diplomatically, is improving daily. That is our source of hope for a conclusion to this conflict on terms that we can dictate. Unfortunately, we are far from being out of the woods just yet. Consequently, it is imperative that all of our front-line units, the *Seawolf* and other valiant warriors like her, be reminded

that vigilance is the watchword for the days ahead. I want this message spread wide and far because, and I say this with certainty, overconfidence born of our early successes is our greatest enemy at this stage of the game.



MISSION FOURTEEN: A MED CRUISE

Situation Report

Soviet attack submarines are actively prosecuting Allied military and merchant shipping transiting the Strait of Gibraltar en route to the Med. The losses they have inflicted so far have been significant. This situation cannot continue if the U.S. expects to win the war. If the merchants do not reach their destinations, there simply will be nothing left to fight for.

Intelligence Report

SOSUS arrays have held sporadic acoustic contact on two Victor class SSNs since these attacks began several days ago. In addition, the heat signatures of two Kilo class diesel boats have been captured by aerial patrols using forward looking infrared (FLIR) cameras. Apparently these boats are snorkeling under cover of darkness to recharge their batteries. The last position data on these intercepts is now eight hours old. We know Ivan is still in the area, but it will be up to the crew of the *Seawolf* to pin him down.

Synopsis of Orders

Proceed silently to the Strait of Gibraltar and destroy any Soviet Hunter/Killer groups you find. Be alert to the density of friendly surface traffic in the area and maintain positive control of any fish in the water to ensure that you do not damage surface shipping.

Rules of Engagement

Warning Red, Weapons Tight. Positively identify all contacts before commencing the engagement.

Executive Officer's Comment

We have learned that the Soviet Hunter/Killer groups like to come at their victims from multiple angles. Therefore, we must change course frequently to cover all axes of approach until we have positively identified the four Soviet subs. Chances are, that when we find them they'll be busy busting merchants. Although it's tough for us to watch them get off some good shots while we maneuver into range, I don't think we'll have much choice in this matter, Captain. If we rush headlong at the first attack boat we find to keep it from "tubing" a tanker, her buddies will be all over us.

Instead of that approach, I think we need to keep our speed down to one-quarter power or below and set up each one of them individually. Once we have thinned them out a bit, we might be able to come up to half power to go after the last one or two without incurring too much risk. We may lose a few more merchants today by taking it slow and easy, but those guys won't be around to get any more tomorrow once we're done.

The Captain's Log

Mission time: 00:48:00

Ships destroyed: 0

Subs destroyed: 4

Torpedoes used: 12

Torpedoes hit: 6

Torpedoes evaded: 2

Torpedoes hit us: 0

Noisemakers used: 2

Active sonar: 0

Ident. right/wrong: 0/0

00:02:50 = Dille fired a Mark 48 HS at Victor II SSN

00:02:52 = Dille fired a Mark 48 HS at Victor II SSN

00:03:46 = Dille fired a Sea Lance at Kilo SS

00:04:04 = Victor II SSN dropped a noisemaker

00:05:00 = Kilo SS dropped a noisemaker

00:05:14 = Victor II SSN was hit by Dille's Mark 48 HS

00:07:22 = Dille fired a Mark 48 HS at Victor II SSN

00:07:24 = Dille fired a Mark 48 HS at Victor II SSN

00:08:44 = Victor II SSN dropped a noisemaker
00:08:52 = Victor II SSN was hit by Dille's Mark 48 HS
00:09:12 = Victor II SSN was destroyed by Dille
00:10:24 = Dille fired a Sea Lance at Kilo SS
00:11:36 = Kilo SS dropped a noisemaker
00:12:20 = Kilo SS fired a Type 53 LR at Cargo Ship
00:12:48 = Kilo SS fired a Type 53 LR at Cargo Ship
00:14:56 = Dille fired a Mark 48 HS at Kilo SS
00:15:02 = Dille fired a Mark 48 HS at Kilo SS
00:15:46 = Kilo SS fired a Type 53 LR at Cargo Ship
00:16:08 = Kilo SS dropped a noisemaker
00:16:14 = Kilo SS fired a Type 53 LR at Cargo Ship
00:16:34 = Cargo Ship was hit by Kilo SS's Type 53 LR
00:16:44 = Kilo SS dropped a noisemaker
00:16:48 = Cargo Ship was hit by Kilo SS's Type 53 LR
00:16:50 = Cargo Ship was destroyed by Kilo SS
00:17:10 = Kilo SS was hit by Dille's Mark 48 HS
00:17:30 = Kilo SS was destroyed by Dille
00:20:38 = Cargo Ship was hit by an unknown vessel's Type 53 LR
00:20:56 = Cargo Ship was hit by an unknown vessel's Type 53 LR
00:31:34 = Dille fired a Mark 48 HS at Kilo SS
00:31:42 = Dille fired a Mark 48 HS at Kilo SS
00:32:38 = Kilo SS dropped a noisemaker
00:33:12 = Kilo SS was hit by Dille's Mark 48 HS
00:33:32 = Kilo SS was destroyed by Dille
00:33:44 = Dille dropped a noisemaker
00:44:40 = Victor I SSN fired a Type 53 LR at Dille
00:45:08 = Victor I SSN fired a Type 53 LR at Dille
00:46:28 = Dille dropped a noisemaker
00:46:42 = Dille fired a Mark 48 HS at Victor I SSN
00:46:44 = Dille fired a Mark 48 HS at Victor I SSN
00:47:34 = Victor I SSN was hit by Dille's Mark 48 HS
00:47:34 = Victor I SSN was hit by Dille's Mark 48 HS
00:47:54 = Victor I SSN was destroyed by Dille
00:48:00 = logbook entry and status report:
mission successfully completed

Debrief and Lessons Learned

As soon as the towed array was deployed, we discovered a Victor II close aboard. This mandated an urgent attack, which was pressed home properly by all hands. With the first target out of the way, the crew settled back down and returned to the executive officer's original battle plan.

Both diesel boats made their presence known fairly rapidly, because they were pumping fish at the merchants faster than we could track them. The first Kilo was engaged to the north of the merchant group at time 00:14. Following this, the *Seawolf* continued north to bring the second Kilo into range. At time 00:31, this unit was also successfully engaged. The lesson you must take away from this, gentlemen, is that Kilos and other diesel boats may be difficult to detect until they take some action to reveal their positions but, once detected, they are cannon fodder. Their batteries cannot provide them with enough surge acceleration to give the Mk 48 a run for its money.

Following the destruction of the second Kilo, the *Seawolf* cleared her baffles and proceeded back to the south to close the range to the convoy. Given the reduced threat due to our confirmed kills of three of the four known submarines, we determined that it was safe to increase speed to 22.8 knots at this time. Despite the increased flow noise across the array at this speed, we gained contact on the Victor I approaching the convoy from the south.



Figure 7-1 Beginning the approach on a Kilo, which is preoccupied in the target-rich environment.



Figure 7-2 Acquiring the second Kilo and preparing for the kill.

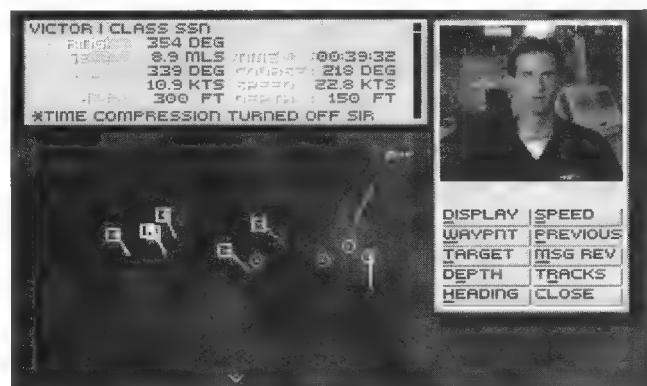
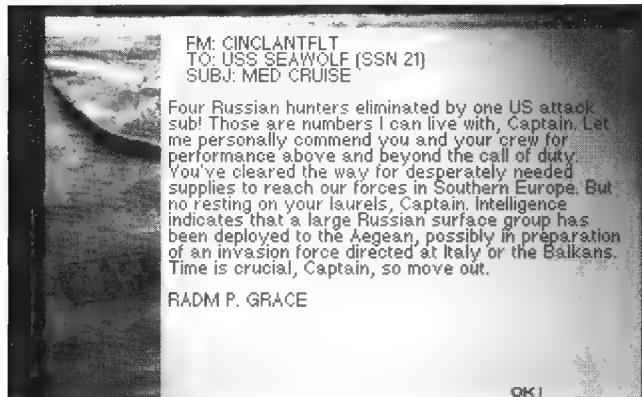


Figure 7-3 Seawolf increases speed coming back for the last Soviet survivor, the Victor I.



The Victor succeeded in getting off the first volley in this final round of combat, but her shots were wide of the mark. The crew of the *Seawolf*, however, continued their outstanding record of weapons accuracy. The sounds of the Victor I breaking up and sliding to the bottom were sweet indeed. Good prosecution, good evasion, good job all around!

Figure 7-4 Chalk up another one for the home team.

MISSION FIFTEEN: ADRIATIC DETOUR

Situation Report

NSA has reason to believe the Soviets are planning an offensive in the Adriatic, possibly to soften up NATO's defenses in this area in preparation for a land assault. Rather than waiting to see what their intentions are, CINCLANTFLT intends to take a more proactive approach. The *Seawolf* will enter the Adriatic to locate and engage the Soviet task force that is the source of current concern.

Intelligence Report

Satellite imagery of the Soviet task force revealed the following composition:

- 2 Sovremenny class DD
- 2 Mirka class FFL
- 2 Kresta class CG
- 1 Kirov class CGH
- 1 Ivan Rogov class LPD

The Kirov is also known to be conducting regular ASW sweeps using

its complement of KA-25 Hormone helicopters. These units are equipped with dipping sonars and should be considered extremely dangerous. Once they have located a submarine, they will pursue it tenaciously and evasion will be difficult. Expect moderate levels of merchant traffic in the area of operations as well.

We suspect the Soviet group is positioning itself to support a marine amphibious landing in Italy or the Balkans. CINCUSNAVEUR has made it plain that they want these forces eliminated before a landing can occur on either side of the Adriatic.

Synopsis of Orders

Since the Intelligence assessment you just received was prepared, the Soviet task force appears to have split into two groups. The *Seawolf*'s primary objective is the groups centered on the Kirov class CGH. The other group is a secondary objective, a nice place to unload any spare ordnance you might be carrying. The success of your mission depends on sinking every last ship in the Kirov's group.

Rules of Engagement

Warning Red, Weapons Tight. Verify contacts as hostile prior to commencing any attack.

Executive Officer's Command

I don't like the fact that the Soviets have split up. This probably indicates that CINCLANT's assessment of their probable intentions was right. If we find the Kirov's group first, great! We can concentrate on them and get the job done. If not, we may have to be careful of alerting the Kirov by prosecuting the second group. My cut is that if they haven't detected us we should leave them alone and concentrate on the primary.

Having those helos around won't make our job any easier either. Normally, I wouldn't mind a quick peek through the periscope to verify our targets, but we can't afford the risk with the rotorheads running around. I hear their air-dropped light torpedoes can really ruin your day, so I think we'd better keep our heads down for this one.

The Captain's Log

Mission time: 01:00:00

Ships destroyed: 8

Subs destroyed: 0

Torpedoes used: 19

Torpedoes hit: 16

Torpedoes evaded: 0

Torpedoes hit us: 1

Noisemakers used: 2

Active sonar: 0

Ident. right/wrong: 0/0

00:20:12 = Dille fired a Mark 48 WH at Sovremenny DD

00:20:12 = Dille fired a Mark 48 WH at Sovremenny DD

00:20:40 = Dille fired a Mark 48 WH at Mirka II FFL

00:21:14 = Dille fired a Mark 48 WH at Ivan Rogov LPD

00:21:18 = Dille fired a Mark 48 WH at Ivan Rogov LPD

00:24:34 = Dille fired a Mark 48 WH at Kresta I CG

00:25:24 = Sovremenny DD was hit by Dille's Mark 48 WH

00:25:24 = Sovremenny DD was hit by Dille's Mark 48 WH

00:25:26 = Sovremenny DD was destroyed by Dille

00:25:26 = Mirka II FFL dropped a noisemaker

00:25:30 = Dille fired a Mark 48 LR at Kresta I CG

00:25:38 = Dille fired a Mark 48 WH at Kresta I CG

00:26:06 = Kresta II CG fired a SS-N-14 Missile at Dille

00:26:38 = Ivan Rogov LPD was hit by Dille's Mark 48 WH

00:26:40 = Ivan Rogov LPD was hit by Dille's Mark 48 WH

00:26:42 = Ivan Rogov LPD was destroyed by Dille

00:27:24 = Dille dropped a noisemaker

00:27:56 = Mirka II FFL was hit by Dille's Mark 48 WH

00:28:16 = Mirka II FFL was destroyed by Dille

00:31:18 = Kresta I CG dropped a noisemaker

00:32:34 = Dille was hit by Kresta II CG's SS-N-14 Missile

00:32:34 = Dille dropped a noisemaker

00:32:46 = damage control report: fire in torpedo room

00:33:28 = Kresta I CG was hit by Dille's Mark 48 WH

00:34:02 = Kresta I CG was hit by Dille's Mark 48 LR

00:34:04 = Kresta I CG was destroyed by Dille
00:49:02 = Dille fired a Mark 48 LR at Sovremenny DD
00:49:02 = Dille fired a Mark 48 HS at Sovremenny DD
00:49:26 = Sovremenny DD dropped a noisemaker
00:49:26 = Dille fired a Mark 48 HS at Mirka II FFL
00:49:56 = Sovremenny DD was hit by Dille's Mark 48 HS
00:49:58 = Dille fired a Mark 48 WH at Kirov CGH
00:50:00 = Dille fired a Mark 48 LR at Kirov CGH
00:50:48 = Dille fired a Mark 48 LR at Kresta II CG
00:51:18 = Mirka II FFL was hit by Dille's Mark 48 HS
00:51:18 = Dille fired a Mark 48 WH at Kresta II CG
00:51:34 = Kirov CGH dropped a noisemaker
00:51:38 = Mirka II FFL was destroyed by Dille
00:52:02 = Sovremenny DD was hit by Dille's Mark 48 LR
00:52:04 = Sovremenny DD was destroyed by Dille
00:53:58 = Kirov CGH was hit by Dille's Mark 48 LR
00:54:12 = Dille fired a Mark 48 LR at Kresta II CG
00:55:00 = Dille fired a Mark 48 HS at Kirov CGH
00:55:32 = Kirov CGH was hit by Dille's Mark 48 WH
00:56:02 = Kirov CGH was hit by Dille's Mark 48 LR
00:56:24 = Kirov CGH was hit by Dille's Mark 48 HS
00:56:26 = Kirov CGH was destroyed by Dille
00:57:06 = Kresta II CG dropped a noisemaker
00:57:52 = Dille fired a Mark 48 LR at Kresta II CG
00:58:00 = Dille fired a Mark 48 WH at Kresta II CG
00:58:22 = Kresta II CG was hit by Dille's Mark 48 LR
00:59:56 = Kresta II CG was hit by Dille's Mark 48 WH
00:59:58 = Kresta II CG was destroyed by Dille
01:00:00 = logbook entry and status report: mission successfully completed

Debrief and Lessons Learned

Once we located both of the groups of interest, it became apparent that the *Seawolf* was out of position to conduct an attack and the situation was worsening by the minute. Kirov and her escorts were more than 10 miles away to the west, and the other Soviet group was only slightly closer and

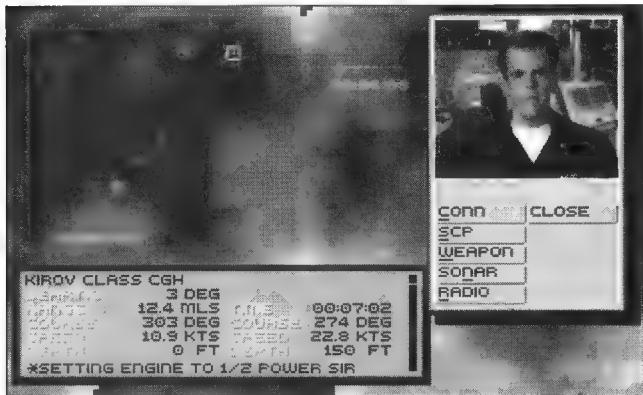


Figure 7-5 Initial contact places both groups out of weapons range.



Figure 7-6 Once the Seawolf had been discovered, breaking up the northern group became a necessity.

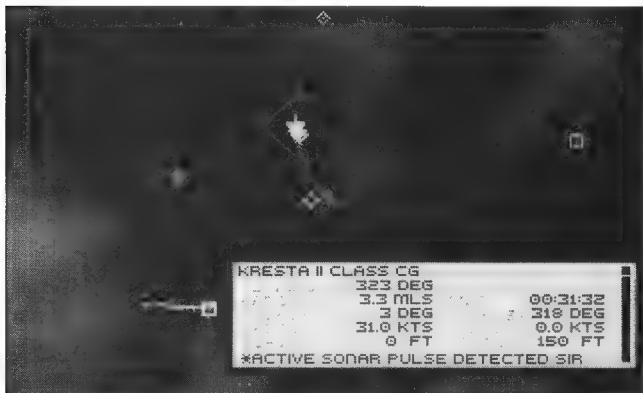


Figure 7-7 A classic stern approach is used to break up the main body and set the stage for Seawolf's decisive follow-up shots.

almost due north of the *Seawolf*'s position. To overtake the primary objective, the *Seawolf* came to a course of 270 and increased speed to 22.8 knots, dropping below the thermal layer in the process. This plan seemed to be working well until the *Seawolf* pulled forward of the beam on the second Soviet group, at which point the Sovremmeny to the north gained contact on us. Realizing that a change in the game plan was in order now that our cover had been blown, we prepared a multiple torpedo salvo to break up the northern group. Our intent was to occupy them long enough to bring our prime objective within striking distance.

Once this attack was under way, the *Seawolf* could not afford to linger to evaluate its effectiveness. Consequently, we turned our backs on these enemies and continued our approach into the baffles of Kirov and her escorts, trusting the Mk 48s to do their jobs. Fortunately, that trust was well placed.

When we attained firing position on the main body, another multiple-shot salvo was prepared, and the executive officer wisely distributed these shots among the targets equally. If nothing else, we intended to put Ivan on the defensive and set up some better placed followup attacks. This is exactly what happened, and the *Seawolf* was never put at significant risk throughout the entire process. Also, by keeping the salvo size per target type greater than was necessary to destroy that unit, the *Seawolf* was never forced into the uncomfortable position of having to come to periscope depth to find and finish a crip-

ple. This most certainly kept the KA-25 Hormone from becoming a factor in the fight. Also—as a humorous aside—because the *Seawolf* took out their landing platform (i.e., the Kirov), those rotorheads almost certainly got their skivvies wet when went the gas gauge hit bottom.



MISSION SIXTEEN: AEGEAN DOGFIGHT

Situation Report

CINCLANTFLT is considering moving a carrier battle group into the Aegean, but is concerned about the high incidence of Soviet submarine activity in the area. The *Seawolf* is currently transiting to the Black Sea in the vicinity of recent “hot spots” of Soviet activity. She has been ordered to depart from planned intended movement (PIM) temporarily to attempt to locate and engage the Soviet submarines.

Intelligence Report

COMSUBLANT has received information that is critical to the success of this mission. Because of the extremely sensitive nature of the origins of this information, those sources cannot be revealed. The current Soviet Order of Battle (OOB) in the Aegean is as follows:

- 2 Victor class SSN
- 1 November class SSN
- 1 Kilo class SS

Further, these specific hulls have been working in concert together for some time now. Therefore, they have established intricate search patterns and work cooperatively extremely well. This tasking will not be an easy one. Alerting the Soviets will not only destroy any opportunity of a surprise attack; it will also place the *Seawolf* at a severe disadvantage.

Synopsis of Orders

Four Soviet attack boats are harassing shipping in the Aegean and preventing free access to the Black Sea. Locate and destroy these assets before proceeding into the Black Sea, thereby paving the way for Carrier

Battle Group D, which is slated to arrive in these waters within 48 hours. You must not fail.

Rules of Engagement

Warning Red, Weapons Free on all subsurface contacts. Warning White, Weapons Tight for other shipping.

Executive Officer's Comments

Boy, the buildup that the big boss gave this group of Soviets makes my hair stand on end. We certainly haven't encountered that degree of cohesive tactics in the engagements we've had so far. I'm sure that what they're doing is baiting you into focusing on one or more of them while the others sneak up your shaft alley. To avoid that, we are going to have to stay on our toes and put them on the defensive as soon as possible.

I recommend early standoff attacks with the Sea Lance to get them running, then quick closure for the kill. If they get us running first, I would expect to hear inbound torpedoes from all quadrants, and then it would be all over for the fat lady and us too. If we do get the jump on them at the beginning, however, the secret is going to be keeping contact and pressing the attack until the last one of them is fish food. I would also expect a lot of layer changes and noisemaker drops by opponents that are this skilled.

The Captain's Log

Mission time: 01:30:00

Ships destroyed: 0

Subs destroyed: 4

Torpedoes used: 13

Torpedoes hit: 6

Torpedoes evaded: 0

Torpedoes hit us: 0

Noisemakers used: 6

Active sonar: 0

Ident. right/wrong: 0/0

00:06:02 = Dille fired a Sea Lance at Victor III SSN

00:07:12 = Victor III SSN dropped a noisemaker
00:08:10 = Dille fired a Sea Lance at November SSN
00:09:02 = November SSN dropped a noisemaker
00:10:06 = Victor III SSN was hit by Dille's Sea Lance
00:18:28 = Dille fired a Mark 48 LR at November SSN
00:18:36 = Dille fired a Mark 48 LR at November SSN
00:19:52 = November SSN fired a Type 53 LR at secondary waypoint
00:20:20 = November SSN fired a Type 53 LR at secondary waypoint
00:20:52 = November SSN dropped a noisemaker
00:22:34 = Dille dropped a noisemaker
00:26:08 = November SSN dropped a noisemaker
00:30:36 = November SSN dropped a noisemaker
00:31:06 = November SSN was hit by Dille's Mark 48 LR
00:31:26 = November SSN was destroyed by Dille
00:31:30 = Victor III SSN fired a Type 53 LR at secondary waypoint
00:35:14 = Dille dropped a noisemaker
00:36:16 = Dille fired a Mark 48 LR at Victor III SSN
00:37:02 = Dille fired a Mark 48 LR at Victor III SSN
00:37:40 = Victor III SSN fired a Type 53 LR at secondary waypoint
00:38:08 = Victor III SSN fired a Type 53 LR at secondary waypoint
00:38:28 = Dille dropped a noisemaker
00:38:58 = Dille fired a Mark 48 HS at Victor III SSN
00:39:56 = Dille dropped a noisemaker
00:40:48 = Victor III SSN dropped a noisemaker
00:41:02 = Victor III SSN was hit by Dille's Mark 48 HS
00:41:22 = Victor III SSN was destroyed by Dille
00:54:44 = Dille fired a Mark 48 HS at Victor II SSN
00:54:44 = Dille fired a Mark 48 HS at Victor II SSN
00:56:36 = Victor II SSN dropped a noisemaker
00:57:34 = Victor II SSN was hit by Dille's Mark 48 HS
00:59:08 = Dille fired a Mark 48 LR at Victor II SSN
01:01:34 = Victor II SSN fired a Type 53 LR at secondary waypoint
01:02:02 = Victor II SSN fired a Type 53 LR at secondary waypoint
01:03:00 = Dille dropped a noisemaker
01:03:10 = Victor II SSN dropped a noisemaker
01:03:24 = Dille fired a Mark 48 LR at Victor II SSN
01:04:30 = Dille dropped a noisemaker

01:05:36 = Victor II SSN fired a Type 53 LR at secondary waypoint
 01:06:04 = Victor II SSN fired a Type 53 LR at secondary waypoint
 01:07:46 = Victor II SSN dropped a noisemaker
 01:09:36 = Victor II SSN was hit by Dille's Mark 48 LR
 01:09:56 = Victor II SSN was destroyed by Dille
 01:22:58 = Dille fired a Mark 48 LR at Kilo SS
 01:23:02 = Dille fired a Mark 48 LR at Kilo SS
 01:29:26 = Kilo SS dropped a noisemaker
 01:29:36 = Kilo SS was hit by Dille's Mark 48 LR
 01:29:56 = Kilo SS was destroyed by Dille
 01:30:00 = logbook entry and status report:
 mission successfully completed

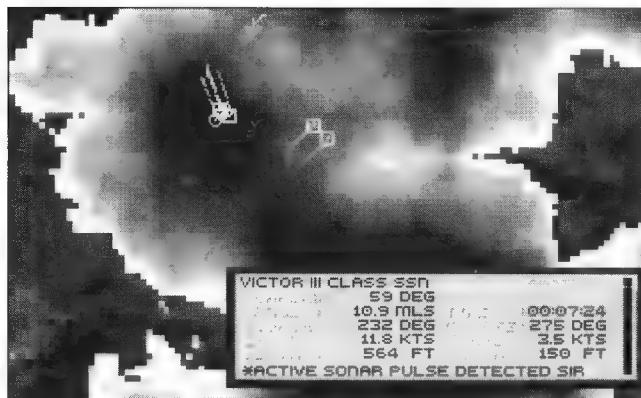


Figure 7-8 Victor III with a Sea Lance in hot pursuit.

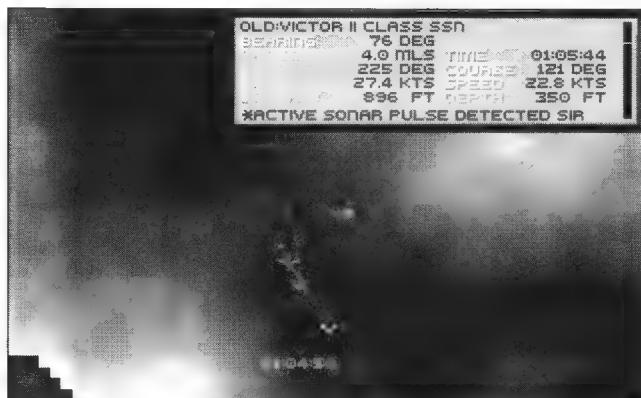


Figure 7-9 The Victor II proved to be an elusive foe.

Debrief and Lessons Learned

Well, it went pretty much as we expected. First contact was held on one of the Victors and the November. The latter was close enough for a conventional attack, but we didn't want to give either of these guys the opportunity to shoot a return torp down the reciprocal of the bearing our shots were coming from, so we used Sea Lance. One shot for each contact put them up and on the run. This allowed us to easily track the Victor while we put the killing shot into the November.

While we were following up the attack on the Victor III, we were turning 120 degrees to starboard to begin looking for the two remaining playmates. Contact was made shortly thereafter and we were able to shorten the classification process based on the solid intelligence provided by COMSUBLANT. In the ensuing engagement the Victor II, though a less capable platform than the Victor III, outperformed her considerably.

The final challenge turned out to be the Kilo, which, as we have learned, is not much of a challenge once it is detected. Because these thin-skinned boats can't outrun an Mk 48, even when fired at long range, we decided to take our shot at a range of 5 miles. Shortly thereafter, the "formidable" gang of four was history.

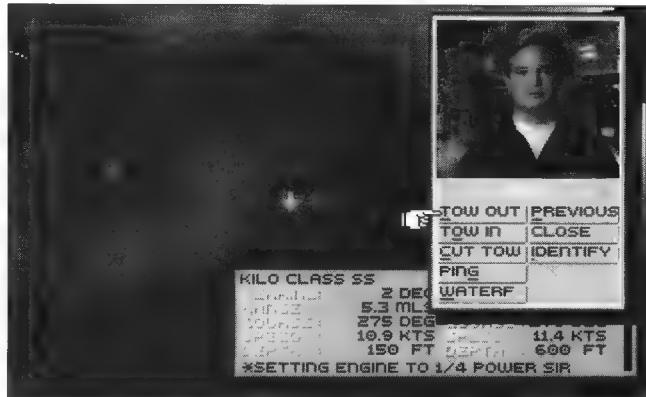


Figure 7-10 Kilo submarines—they can hide but they can't run away.



MISSION SEVENTEEN: DARDANELLE DUTY

Situation Report

The recent increase in Soviet naval traffic through the Dardanelles is cause for some action. The *Seawolf* has been ordered by CINCLANTFLT to patrol the area and sink all Soviet shipping encountered. This surge of activity is certainly related to the increased Soviet operations tempo in the Med, and the *Seawolf* can sway the balance of power in that region by preventing these reinforcements from arriving.

Intelligence Report

Coast watchers have confirmed the presence of numerous Soviet warships, including:

- 1 Sovremenny class DD
- 1 Nanuchka class FFL
- 1 Moskva class CGH
- 1 Slava class CG
- 1 Kynda class CG

Air operations are in progress and multiple KA-25s may be aloft at any given time. A Soviet submarine presence is strongly suspected but cannot be confirmed. Allied and Soviet mines are known to be present in these waters. Merchant traffic will be light.

Synopsis of Orders

Sanitize the Dardanelles— eliminate all hostile activity, using any means necessary. Your time on station will be limited because urgent commitments require the *Seawolf*'s presence elsewhere. Maximize that time, and do nothing that could jeopardize follow-on tasking.

Rules of Engagement

Warning Red, Weapons Tight. Verify all contacts as hostile prior to engagement.

Executive Officer's Comments

It sounds as if we are going to have to be prepared to react to threats from every conceivable angle. In the worst-case scenario, if we tip our hand and provide Ivan with our position, we will potentially have to evade SSN-14s, SSN-15s, Type 533s and air-dropped ordnance—not my idea of a day in the park.

With any luck, because the enemy will be worried about operating in restricted waters anyway, his force will be spread out and we'll have a little more latitude in engaging them sequentially. If I'm wrong in that assumption and we have to evade a lot of counter-battery fire, we need to go deep and fast to get outside the range of any ships and submarines, then go evasive strictly for the helo, dropping noisemakers, slowing, changing heading and depth. Once we shake him, we'll have to start over again on the others, but at least we'll be in a position to do so, instead of becoming a new haven for schools of fish.

The Captain's Log

Mission time: 01:34:00

Ships destroyed: 5

Subs destroyed: 2

Torpedoes used: 19

Torpedoes hit: 14

Torpedoes evaded: 2

Torpedoes hit us: 1

Noisemakers used: 6

Active sonar: 0

Ident. right/wrong: 0/0

00:05:04 = Dille fired a Mark 48 LR at Kynda CG

00:05:04 = Dille fired a Mark 48 WH at Kynda CG

00:05:28 = Dille fired a Mark 48 WH at Nanuchka III FFL

00:05:58 = Dille fired a Mark 48 WH at Slava CG

00:06:02 = Dille fired a Mark 48 WH at Slava CG

00:06:06 = Dille fired a Mark 48 WH at Slava CG

00:07:22 = Nanuchka III FFL dropped a noisemaker

00:09:18 = Slava CG dropped a noisemaker

00:09:22 = Kynda CG dropped a noisemaker

00:11:34 = Kynda CG was hit by Dille's Mark 48 WH

00:11:52 = Slava CG was hit by Dille's Mark 48 WH

00:11:54 = Slava CG was hit by Dille's Mark 48 WH

00:13:14 = Dille fired a Mark 48 WH at Nanuchka III FFL

00:13:22 = Slava CG was hit by Dille's Mark 48 WH

00:13:24 = Slava CG was destroyed by Dille

00:13:32 = Kynda CG was hit by Dille's Mark 48 LR

00:13:34 = Kynda CG was destroyed by Dille

00:33:58 = Dille fired a Mark 48 HS at Victor III SSN

00:34:02 = Dille fired a Mark 48 HS at Victor III SSN

00:35:00 = Victor III SSN was hit by Dille's Mark 48 HS

00:35:02 = Victor III SSN dropped a noisemaker

00:35:06 = Victor III SSN was hit by Dille's Mark 48 HS

00:35:26 = Victor III SSN was destroyed by Dille

00:38:18 = Dille fired a Mark 48 WH at Moskva CGH

00:38:22 = Dille fired a Mark 48 WH at Moskva CGH

00:38:28 = Dille fired a Mark 48 WH at Moskva CGH

00:38:32 = Dille fired a Mark 48 WH at Moskva CGH

00:44:22 = Moskva CGH dropped a noisemaker

00:44:42 = Moskva CGH was hit by Dille's Mark 48 WH

00:44:48 = Moskva CGH was hit by Dille's Mark 48 WH

00:44:50 = Moskva CGH was hit by Dille's Mark 48 WH

00:44:52 = Moskva CGH was destroyed by Dille

00:47:16 = Dille fired a Harpoon at Sovremenny DD

00:47:36 = Sovremenny DD was hit by Dille's Harpoon
00:47:56 = Sovremenny DD was destroyed by Dille
00:48:36 = Victor II SSN fired a SS-N-15 Missile at Dille
00:48:56 = Dille dropped a noisemaker
00:50:20 = Dille dropped a noisemaker
00:52:18 = Victor II SSN fired a SS-N-15 Missile at Dille
00:53:56 = Dille dropped a noisemaker
00:55:50 = Dille dropped a noisemaker
00:59:00 = Kamov KA-25 Hormone Heli fired a Type 45 Light at
Dille
00:59:20 = Dille was hit by Kamov KA-25 Hormone Heli's Type 45
Light
00:59:38 = damage control report: increased cavitation off the screw
01:19:34 = Dille fired a Mark 48 LR at Victor II SSN
01:19:38 = Dille fired a Mark 48 LR at Victor II SSN
01:20:14 = Victor II SSN fired a Type 53 LR at secondary waypoint
01:20:42 = Victor II SSN fired a Type 53 LR at secondary waypoint
01:21:20 = Dille dropped a noisemaker
01:22:02 = Victor II SSN dropped a noisemaker
01:23:12 = Dille fired a Mark 48 HS at Victor II SSN
01:23:14 = Dille fired a Mark 48 HS at Victor II SSN
01:23:34 = Dille dropped a noisemaker
01:25:40 = Victor II SSN was hit by Dille's Mark 48 HS
01:25:42 = Victor II SSN was hit by Dille's Mark 48 HS
01:26:02 = Victor II SSN was destroyed by Dille
01:32:44 = Dille fired a Mark 48 HS at Nanuchka III FFL
01:32:46 = Dille fired a Mark 48 HS at Nanuchka III FFL
01:33:42 = Nanuchka III FFL was hit by Dille's Mark 48 HS
01:33:44 = Nanuchka III FFL was hit by Dille's Mark 48 HS
01:33:46 = Nanuchka III FFL was destroyed by Dille
01:34:00 = logbook entry and status report:
mission successfully completed

Debrief and Lessons Learned

Well, they say life is hell in a multi-threat environment, and this mission was living proof of that.

We gained contact on some of the Soviet force almost immediately, and staged a three-pronged attack on Kynda, Slava and the Nanuchka III at approximately time 00:05. Surprisingly, what should have been the easiest kill of the group, the Nanuchka, was the only survivor of the initial spread of torpedoes.

While these torpedoes were still en route to their targets, the *Seawolf* gained contact on a Victor class SSN. He was apparently attracted to all the commotion we just generated and was attempting to sneak in and give us a nasty surprise. Fortunately, we caught him red-handed—pun intended—and turned the tables on him. When this engagement finished, we had lost contact on Nanuchka but, in her place was a much riper target. The Moskva was turned into the wind to conduct helicopter recovery and could not alter course as she bore down on our position. It was a very sweet turn of events. The torpedo room went four for four on her carcass and everyone started feeling as if this mission was going to be easier than we'd thought.

That sense of false confidence almost ended up getting us killed.

Sonar was still listening to the sounds of Moskva's hull creaking and breaking up on its way to the bottom when the contact plotter reported a clear board. The executive officer thought it would be safe to pop up to periscope depth and see if we had any cripples to deal with. His quick scan revealed a Sovremenny DD just barely visible on the horizon and headed northbound like a cat with a firecracker tied to its tail.

The decision was made to take him with a missile, and, no sooner had the console operator said "Birds away" than all hell began breaking loose. Two SSN-15s dropped into the water close aboard out of nowhere and, before we could barely begin to react to these shots from an unseen opponent, here came an air-dropped torpedo. Apparently a rotorhead also visually spotted our periscope and conducted an urgent attack. Further, he was

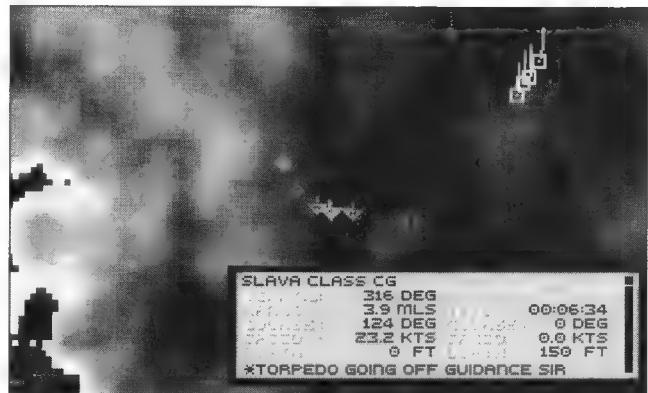


Figure 7-11 The initial attack, if successful, will reduce the threat level considerably.

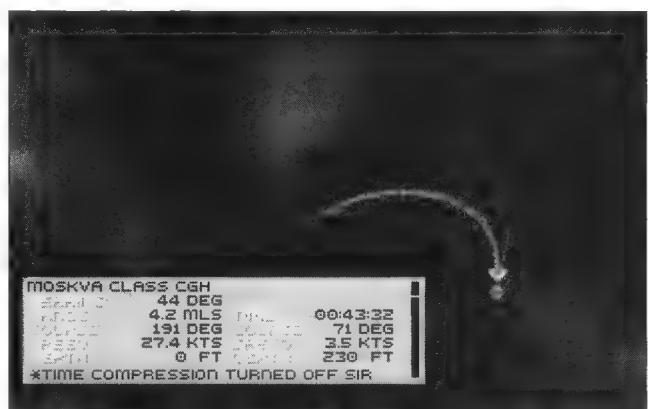


Figure 7-12 Four for Moskva, go team!

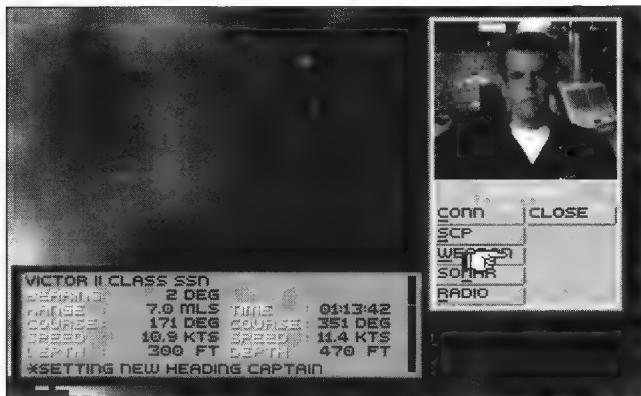


Figure 7-13 The *Seawolf* played hide-and-seek with the Victor II, using bottom topography to her advantage.



Figure 7-14 Nanuchka's luck runs out.

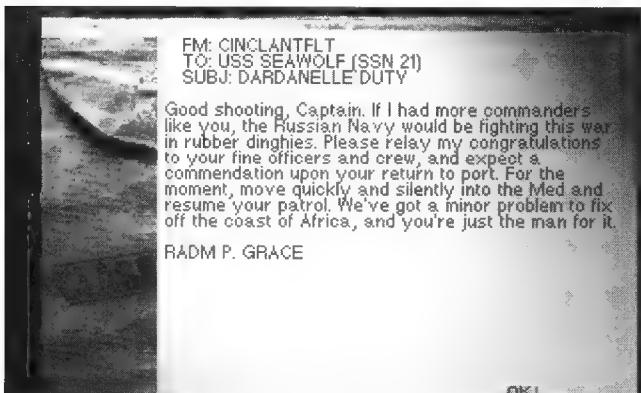


Figure 7-15 You should feel relieved to be reading this after that last mission.

probably one pissed-off jet jockey wannabe who had just finished watching us send his only friendly landing strip to the bottom. Things looked bad.

The *Seawolf* went into a prolonged evasion run at test depth and full speed. We used multiple course changes to weave our way through a bottom canyon and evade a couple of his shots anyway. When new ordnance stopped hitting the water, we became convinced that he had lost contact, at least for the time being, and we slowed back down to bare steerageway. The diving officer then gave the order to come up two layers, which gave us a chance to "peek" over the rim of the canyon we had been hiding in. There, to no one's surprise, was the other Victor II.

He was surprised, but not enough so to keep him from getting off another salvo before our torps hit home, thereby sending us into another prolonged evasion run. Fortunately, ours turned out more successfully than his. Luckily, the helicopter never reacquired us during this time. Once we were out of the woods again, we slowed back down to one-quarter speed and came to attack depth. Who should be sitting less than a mile away when we do this? Nanuchka, but he didn't see us. His mistake.

The rest, as they say, is history. CINCLANTFLT knew we would be outnumbered and outgunned going into this one, but his faith was placed well. Once again, the crew of the *Seawolf* pulled together in dealing with new tactical situations and proved that good old American ingenuity comes through every time.



MISSION EIGHTEEN: BARBARY PIRATES

Situation Report

Libya, though officially neutral, has decided to take advantage of the current confusion to settle some old scores. Libyan Foxtrot submarines are believed to be responsible for the sinking of several merchant ships in recent days, and are suspected of firing at NATO warships as well. Obviously, the Libyans hope to exact a little revenge for some of our less-than-subtle attempts at carrying a big stick. They figure that with all the shooting going on already, no one is going to notice a few shots from the sidelines. Wrong. It doesn't matter whether it's the Libyans or the Soviets behind this—someone will pay for these attacks.

Intelligence Report

Libya owns only four Foxtrots, so that's the most that you can expect to encounter in any engagement. Further, the Soviet technical representatives who helped the Libyans maintain these boats after the initial purchase are long gone. The Foxtrots will put to sea with ill-trained crews, partially functioning machinery, and much less sound suppression than was originally intended. A four-ship SAU, centered on the Ticonderoga, is already in the area searching for the Foxtrots. They will assist the *Seawolf*'s prosecution in any way possible.

Synopsis of Orders

Operate in conjunction with the SAU commander aboard Ticonderoga to "delouse" the northern Libyan coastline, ridding it of subsurface threats regardless of their nation of origin.

Rules of Engagement

Warning Red, Weapons Free for subsurface contacts. Warning White, Weapons Tight for all other shipping.

Executive Officer's Comments

What's to say, Captain? These boats are old and, from all indications, noisy too. They're no match for the *Seawolf* alone, let alone the *Seawolf* and the SAU assets. I pity the poor bastards. . . well, almost.

The Captain's Log

Mission time: 00:16:00

Ships destroyed: 0

Subs destroyed: 3

Torpedoes used: 6

Torpedoes hit: 4

Torpedoes evaded: 0

Torpedoes hit us: 0

Noisemakers used: 2

Active sonar: 0

Ident. right/wrong: 0/0

00:01:52 = Foxtrot SS fired a Type 53 LR at Oil Tanker

00:02:20 = Foxtrot SS fired a Type 53 LR at Oil Tanker

00:03:16 = Ticonderoga DDG dropped a depth charge

00:03:26 = Foxtrot SS was hit by Ticonderoga DDG's Depth Charge

00:03:34 = Ticonderoga DDG dropped a depth charge

00:03:44 = Ticonderoga DDG dropped a depth charge

00:03:46 = Foxtrot SS was destroyed by Ticonderoga DDG

00:04:20 = Dille fired a Sea Lance at Foxtrot SS

00:05:00 = Dille fired a Sea Lance at Foxtrot SS

00:05:12 = Foxtrot SS fired a Type 53 LR at Merchant Ship Type 1

00:05:40 = Foxtrot SS fired a Type 53 LR at Merchant Ship Type 1

00:06:06 = Foxtrot SS was hit by Dille's Sea Lance

00:06:22 = Foxtrot SS dropped a noisemaker

00:06:26 = Foxtrot SS was destroyed by Dille

00:06:50 = Oil Tanker was hit by an unknown vessel's Type 53 LR

00:07:18 = Oil Tanker was hit by an unknown vessel's Type 53 LR

00:09:04 = Dille fired a Mark 48 LR at Foxtrot SS

00:09:08 = Dille fired a Mark 48 LR at Foxtrot SS

00:09:10 = Merchant Ship Type 1 was hit by an unknown vessel's Type 53 LR

00:09:32 = Merchant Ship Type 1 was hit by an unknown vessel's
Type 53 LR
00:10:18 = Foxtrot SS fired a Type 53 LR at secondary waypoint
00:10:44 = Foxtrot SS was hit by Dille's Sea Lance
00:10:46 = Foxtrot SS fired a Type 53 LR at secondary waypoint
00:11:04 = Foxtrot SS was destroyed by Dille
00:11:04 = Dille dropped a noisemaker
00:11:18 = Foxtrot SS dropped a noisemaker
00:12:14 = Dille dropped a noisemaker
00:15:08 = Dille fired a Mark 48 HS at Foxtrot SS
00:15:10 = Dille fired a Mark 48 HS at Foxtrot SS
00:15:32 = Foxtrot SS was hit by Dille's Mark 48 LR
00:15:36 = Foxtrot SS was hit by Dille's Mark 48 LR
00:15:38 = Foxtrot SS was destroyed by Dille
00:16:00 = logbook entry and status report:
mission successfully completed

Debrief and Lessons Learned

Target classification is easy with perfect intelligence. We knew they were Foxtrots, so we could type them on the waterfall display as soon as they popped up, which reduced our weapons firing timeline to practically nothing. Tico was pounding one of them before we even got into the thick of it, but the other three were ours easily.



Figure 7-16 Initial positioning. Ticonderoga has just completed prosecution of one Foxtrot, the *Seawolf* begins her assault with Sea Lance.



Figure 7-17 Refusing to go quietly under the circumstances, the final Foxtrot stages a shootout at the O.K. Corral.

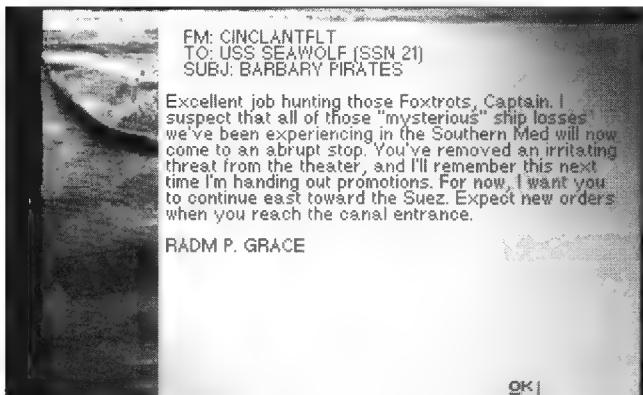


Figure 7-18 One of the final "G-grams."

Foxtrots two and three fell by the wayside without much of a squabble, but the final one decided to put up a fight. I guess he had figured out by then that we meant business. As the *Seawolf* closed for a short-range quick kill, he managed to get off one quick salvo.

Needless to say, the lack of training for the Libyan crews played a part in the endgame of this engagement as well. If there is a lesson in such a simple engagement as this, it is probably that the

Foxtrots can neither run or hide. It kind of makes you appreciate where you're sitting, doesn't it?



MISSION NINETEEN: SUEZ DODGE

Situation Report

Soviet attack submarines have recently started harassing shipping in and around the Suez Canal. Their goal is to block or, at a minimum, clog the canal with ship hulks to prevent free transit. If they achieve this objective, the results will be catastrophic. The length of time it would take to transfer units from the Pacific to the Atlantic theater would become unacceptable, and it could result in our losing the war. The *Seawolf* must stop the Soviet group at all costs.

Intelligence Report

This Soviet Hunter/Killer group has been busy lately. Earlier in the week, a supply ship was sunk and five other merchants were severely crippled. Two days later, three more supply ships took hits and didn't make it through. An improved 688 class was sent into the area prior to this and managed to send a contact report to COMSUBPAC via slot buoy that indicated she was engaging a known Alfa class SSN and a suspected Victor. She has not been heard from since and the merchant attacks continue. We must assume the worst, and we cannot confirm the accuracy of her initial report either.

Synopsis of Orders

Proceed to the Suez Canal and adopt a low slow patrol pattern. Detect, localize and destroy all hostile subsurface contacts. Avoid being classified by the opposition if at all possible. Should one of them escape, she could provide information about the *Seawolf's* transfer from the Atlantic to the Pacific fleets, which could jeopardize future plans.

Rules of Engagement

Warning Red, Weapons Free on all subsurface contacts. Warning White, Weapons Tight for other shipping.

Executive Officer's Comments

An Alfa! I sure don't like to hear that. When I was an instructor back at Sub School in New London, we ran a lot of wargame profiles against that class of hull. You don't want to hear the results. She's got a titanium hull, which makes her paint real well on active sonar, but that doesn't matter. Once you have to go active to track her, she's gone like a bat out of hell. Sixty knots or better is the word we got, which means the Mk 48s won't catch her once she's up to speed. Also, that titanium hull is strong enough to withstand two or three hits before rupturing. It must sound like hell inside that can when it's getting rocked like that, but they're counting on their speed not to have to endure that pounding.

There's only one way to get an Alfa. You've got to ambush her at close range, say 1 mile or less, and she has to be going slow when you do it. That's the only way the Mk 48 can close the gap before she revs up and takes off. Crawling into bed with her like that isn't easy either. Alfa boats generally have some of the best crews in the whole Soviet fleet. We can pull it off, Captain, but it isn't going to be easy.

The Captain's Log

Mission time: 01:12:00

Ships destroyed: 0

Subs destroyed: 3

Torpedoes used: 16

Torpedoes hit: 7

Torpedoes evaded: 0

Torpedoes hit us: 0

Noisemakers used: 0

Active sonar: 0

Ident. right/wrong: 1/0

00:02:16 = Victor II SSN fired a Type 53 HS at Oil Tanker

00:02:26 = Victor II SSN fired a Type 53 HS at Oil Tanker

00:03:24 = Victor III SSN fired a Type 53 LR at Merchant Ship Type 1

00:03:52 = Victor III SSN fired a Type 53 LR at Merchant Ship Type 1

00:04:08 = Victor II SSN fired a Type 53 HS at Oil Tanker

00:04:18 = Victor II SSN fired a Type 53 HS at Oil Tanker

00:04:28 = Oil Tanker was hit by Victor II SSN's Type 53 HS

00:04:36 = Oil Tanker was hit by Victor II SSN's Type 53 HS

00:06:40 = Oil Tanker was hit by Victor II SSN's Type 53 HS

00:06:48 = Oil Tanker was hit by Victor II SSN's Type 53 HS

00:07:06 = Victor II SSN fired a Type 53 HS at Oil Tanker

00:07:16 = Victor II SSN fired a Type 53 HS at Oil Tanker

00:08:52 = Victor II SSN fired a Type 53 LR at Merchant Ship Type 1

00:09:18 = Oil Tanker was hit by Victor II SSN's Type 53 HS

00:09:20 = Oil Tanker was destroyed by Victor II SSN

00:09:20 = Victor II SSN fired a Type 53 LR at Merchant Ship Type 1

00:10:26 = Dille correctly identified Victor III SSN

00:10:44 = Dille fired a Mark 48 HS at Victor III SSN

00:10:50 = Dille fired a Mark 48 LR at Victor III SSN

00:10:54 = Dille fired a Mark 48 LR at Victor III SSN

00:11:14 = Victor II SSN fired a Type 53 LR at Merchant Ship Type 1

00:11:22 = Merchant Ship Type 1 was hit by Victor III SSN's Type 53 LR

00:11:42 = Victor II SSN fired a Type 53 LR at Merchant Ship Type 1

00:12:48 = Victor III SSN dropped a noisemaker

00:12:54 = Victor III SSN was hit by Dille's Mark 48 HS

00:13:36 = Victor II SSN fired a Type 53 LR at Merchant Ship Type 1

00:14:04 = Victor II SSN fired a Type 53 LR at Merchant Ship Type 1

00:15:50 = Merchant Ship Type 1 was hit by Victor II SSN's Type 53 LR

00:16:08 = Victor II SSN fired a Type 53 LR at Merchant Ship Type 1

00:16:12 = Merchant Ship Type 1 was hit by Victor II SSN's Type 53 LR

00:16:14 = Merchant Ship Type 1 was destroyed by Victor II SSN

00:16:38 = Dille fired a Mark 48 HS at Victor III SSN
00:18:08 = Victor III SSN was hit by Dille's Mark 48 LR
00:18:28 = Victor II SSN fired a Type 53 LR at Merchant Ship Type 1
00:18:28 = Victor III SSN was destroyed by Dille
00:18:56 = Victor II SSN fired a Type 53 LR at Merchant Ship Type 1
00:19:32 = Merchant Ship Type 1 was hit by Victor II SSN's Type 53 LR
00:22:32 = Merchant Ship Type 1 was hit by Victor II SSN's Type 53 LR
00:22:34 = Merchant Ship Type 1 was destroyed by Victor II SSN
00:24:32 = Victor II SSN fired a Type 53 LR at Merchant Ship Type 1
00:25:00 = Victor II SSN fired a Type 53 LR at Merchant Ship Type 1
00:27:48 = Victor II SSN fired a Type 53 LR at Merchant Ship Type 1
00:28:16 = Victor II SSN fired a Type 53 LR at Merchant Ship Type 1
00:29:14 = Merchant Ship Type 1 was hit by Victor II SSN's Type 53 LR
00:29:28 = Merchant Ship Type 1 was hit by Victor II SSN's Type 53 LR
00:29:30 = Merchant Ship Type 1 was destroyed by Victor II SSN
00:31:02 = Victor II SSN fired a Type 53 LR at Merchant Ship Type 2
00:31:30 = Victor II SSN fired a Type 53 LR at Merchant Ship Type 2
00:34:22 = Victor II SSN fired a Type 53 LR at Merchant Ship Type 2
00:34:50 = Victor II SSN fired a Type 53 LR at Merchant Ship Type 2
00:35:40 = Merchant Ship Type 2 was hit by Victor II SSN's Type 53 LR
00:35:54 = Merchant Ship Type 2 was hit by Victor II SSN's Type 53 LR
00:35:56 = Merchant Ship Type 2 was destroyed by Victor II SSN
00:37:40 = Victor II SSN fired a Type 53 LR at Merchant Ship Type 2
00:38:08 = Victor II SSN fired a Type 53 LR at Merchant Ship Type 2
00:40:36 = Merchant Ship Type 2 was hit by Victor II SSN's Type 53 LR
00:40:52 = Merchant Ship Type 2 was hit by Victor II SSN's Type 53 LR
00:40:54 = Merchant Ship Type 2 was destroyed by Victor II SSN
00:44:24 = Dille fired a Mark 48 HS at Victor II SSN
00:44:28 = Dille fired a Mark 48 HS at Victor II SSN
00:44:34 = Dille fired a Mark 48 HS at Victor II SSN
00:44:44 = Dille fired a Mark 48 HS at Victor II SSN
00:45:42 = Victor II SSN dropped a noisemaker
00:49:28 = Dille fired a Mark 48 HS at Victor II SSN
00:49:32 = Dille fired a Mark 48 HS at Victor II SSN
00:49:52 = Dille fired a Mark 48 LR at Victor II SSN
00:51:02 = Victor II SSN dropped a noisemaker

00:52:14 = Victor II SSN was hit by Dille's Mark 48 HS
 00:53:42 = Dille fired a Mark 48 HS at Victor II SSN
 00:54:00 = Victor II SSN was hit by Dille's Mark 48 LR
 00:54:20 = Victor II SSN was destroyed by Dille
 00:54:52 = Mark 48 HS was detonated by Dille
 01:10:42 = Dille fired a Mark 48 HS at Alfa SSN
 01:10:46 = Dille fired a Mark 48 HS at Alfa SSN
 01:10:50 = Dille fired a Mark 48 LR at Alfa SSN
 01:10:54 = Dille fired a Mark 48 LR at Alfa SSN
 01:11:32 = Alfa SSN was hit by Dille's Mark 48 HS
 01:11:36 = Alfa SSN was hit by Dille's Mark 48 HS
 01:11:42 = Alfa SSN dropped a noisemaker
 01:11:44 = Alfa SSN was hit by Dille's Mark 48 LR
 01:11:46 = Alfa SSN was destroyed by Dille
 01:12:00 = logbook entry and status report:
 mission successfully completed

Debrief and Lessons Learned

Figure 7-19 During the *Seawolf*'s approach on the Victor III, another submarine (later identified as a Victor II) had a field day with the hapless merchants.

Once we were on station, it was apparent that a brawl was already in progress. The *Seawolf* located a Victor III relatively quickly and began to set up an approach from below the layer. During this phase, another unlocated submarine was busy mauling merchants to the west. We were forced to suck it up and stick to the plan. The Alfa was nowhere to be found yet, and we didn't want to "discover" him via inbound hydrophone effects.

The Victor III reacted to our shots as we had seen others like him do in the past. So, we made short work of him and turned our attention to the Victor II. He too lived up to our recollections of past engagements, skillfully evading six torpedoes (one salvo of four, one of two) before his luck finally ran out.

Once that engagement ended, the *Seawolf* dropped to 3.5 knots and 500 feet with the tail deployed. The search for the



Alfa had begun. We found him all right, slinking along the bottom like a snake, only 10 times as deadly. Thank God the executive officer had some experience fighting these hulls, because the mere thought of what he was capable of kept all of us on pins and needles during the closure phase. Would he see us and shoot before we felt he was within the kill zone? Fortunately, he did not, and the executive officer's tactical suggestions worked like a charm.

We got out of this one all right, but if this is an indication of what we can expect here in the Pacific fleet, it's still going to be a long, drawn-out war. Gentlemen, I will leave you to contemplate that thought while I review our next operation. Get some rest if the watch section rotation will allow it, I need you to be at your sharpest when you return to duty.

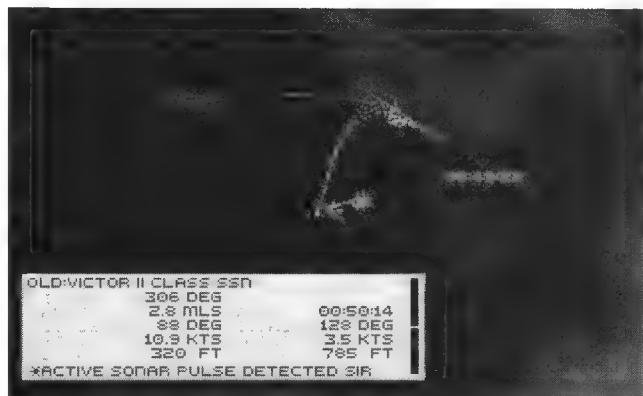


Figure 7-20 If the *Seawolf* were forced to give up seven torps for one kill every time, there would be a lot more Russians in the world today.

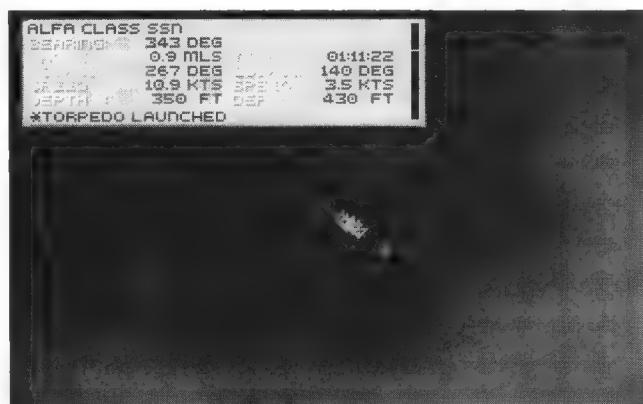


Figure 7-21 Ambushing an Alfa involves a nerve-wracking game of cat-and-mouse.





East Meets West

JCS THREAT BRIEFING

Gentlemen, though our string of successes in the Atlantic and Mediterranean theaters of operations would ordinarily give us reason to celebrate, I'm afraid I must dampen your spirits with some bad news. I'm sure you have all been made aware of the loss of the Carl Vinson battle group in the Pacific yesterday. Upon review of the events leading up to that tragedy, I have come to the conclusion that Admiral Bob Jennings, CINCPACFLT, is at least partially responsible for the deaths of those fine men.

Yes, I understand your reaction. You all know how much Bob means to me. He was my classmate at the Academy and has been a lifelong friend. I can only pray that our friendship will survive the action I feel I must take in this situation. Despite the fact that it was probably an oversight by one of Admiral Jennings's intelligence staff officers that allowed those Soviet SSGNs to creep up on an unalerted battle group, the ultimate responsibility for that mistake lies with Admiral Jennings. It happened in his command, on his watch, and he knows the price of that shortfall as well as anyone in this room.

Just prior to this meeting, I issued the order for Admiral John Ratliff to relieve Admiral Jennings as CINCPACFLT. Concurrently, I

also issued orders for several CINCLANTFLT units to be transferred to Admiral Ratliff's new command to compensate for the losses suffered in that theater. They are not as many as I would have liked to send, but we can only pray their numbers will be sufficient to get the job done.

The Soviet offensives in the Indian and Pacific Oceans are on the upswing. Further, the problems in those theaters are being complicated by the Chinese and the Japanese. It seems that everyone wants a piece of the pie now that all hell has broken loose. It's going to be a difficult situation to manage without escalating the conflict even further. You may be expected to call on your men to do some rather unorthodox things, perhaps even firing on some of our allies if the need arises. That part of it does not leave this room, gentlemen—understood? If the need for actions like that comes to pass, authorization to proceed will come directly from the White House. Then, and only then, the appropriate commanding officers will be briefed.



MISSION TWENTY: RED SEA RUN

Situation Briefing

Soviet SSNs and SSGNs continue to assault merchant and NATO supply convoys transiting the Red Sea toward open waters. Protecting the flow of petroleum products through this SLOC (sea line of communication) has become CINCPACFLT's top priority. All naval assets transiting from CINCLANT to CINCPAC control will be assigned convoy escort duty while in these waters.

Intelligence Briefing

Two highly trained Soviet attack boats are known to be operating in the Red Sea at present. The first, a Victor III out of Petrapovlovsk, won the Admiral Gorshkov Excellence Award for the SOVPACFLT two years running. The other, a November SSN, was a runner-up for the same award. Consider these opponents armed and dangerous.

Synopsis of Orders

The *Seawolf* will operate in direct support of Convoy PN-127 during her transit of the Red Sea. The convoy consists of six Priority One merchant ships, carrying vital relief supplies to Diego Garcia for the Military Sealift Command, and one LPD, loaded with a Marine Security Battalion. Surface escort for the convoy will be provided by the following units of DESRON 15:

- 1 Kidd class DDG
- 1 Oliver Hazard Perry FFG
- 1 Garcia class FF

In addition, the Kidd has a detachment of SH-60B Seahawk helicopters on board, which may be assigned to ASW screening stations in conjunction with the group. Ensure the safe transit of PN-127 until relieved for subsequent tasking.

Rules of Engagement

Warning Red, Weapons Tight for subsurface contacts. Positively identify as hostile prior to engagement. Warning White, Weapons Tight for surface shipping.

Executive Officer's Comments

If the Soviet crews are as good as their reputations, we will have to put ordnance in the water almost as soon as we detect them. Otherwise it won't take them long to start chopping up our convoy. Operating on the defensive is always tough, but we've been given little margin for error in this one.

The Captain's Log

Mission time: 00:20:00

Ships destroyed: 0

Subs destroyed: 2

Torpedoes used: 6

Torpedoes hit: 3

Torpedoes evaded: 0

Torpedoes hit us: 0

Noisemakers used: 0

Active sonar: 0

Ident. right/wrong: 2/0

00:00:56 = Victor III SSN fired an Anti-Ship Missile at Merchant Ship Type 1

00:01:16 = Merchant Ship Type 1 was hit by Victor III SSN's Anti-Ship Missile

00:01:36 = Merchant Ship Type 1 was destroyed by Victor III SSN

00:04:06 = Victor III SSN fired an Anti-Ship Missile at Garcia FF

00:04:26 = Garcia FF was hit by Victor III SSN's Anti-Ship Missile

00:04:46 = Garcia FF was destroyed by Victor III SSN

00:05:22 = Dille correctly identified Victor III SSN

00:05:40 = Dille fired a Sea Lance at Victor III SSN

00:07:06 = Victor III SSN fired an Anti-Ship Missile at Merchant Ship Type 1

00:07:26 = Merchant Ship Type 1 was hit by Victor III SSN's Anti-Ship Missile

00:07:42 = Victor III SSN was hit by Dille's Sea Lance

00:07:46 = Merchant Ship Type 1 was destroyed by Victor III SSN

00:08:38 = Dille fired a Sea Lance at Victor III SSN

00:09:42 = November SSN fired a Type 53 LR at Oliver H. Perry FFGH

00:10:06 = Victor III SSN fired an Anti-Ship Missile at Merchant Ship Type 1

00:10:10 = November SSN fired a Type 53 LR at Oliver H. Perry FFGH

00:10:26 = Merchant Ship Type 1 was hit by Victor III SSN's Anti-Ship Missile

00:10:26 = Victor III SSN was hit by Dille's Sea Lance

00:10:46 = Merchant Ship Type 1 was destroyed by Victor III SSN

00:10:46 = Victor III SSN was destroyed by Dille

00:12:58 = November SSN fired a Type 53 LR at Oliver H. Perry FFGH

00:13:26 = November SSN fired a Type 53 LR at Oliver H. Perry FFGH
 00:13:34 = Dille correctly identified November SSN
 00:14:36 = Dille fired a Mark 48 LR at November SSN
 00:14:42 = Dille fired a Mark 48 LR at November SSN
 00:16:18 = Oliver H. Perry FFGH was hit by November SSN's Type 53 LR
 00:16:32 = Oliver H. Perry FFGH was hit by November SSN's Type 53 LR
 00:16:34 = Oliver H. Perry FFGH was destroyed by November SSN
 00:17:32 = November SSN dropped a noisemaker
 00:17:40 = Dille fired a Mark 48 HS at November SSN
 00:17:42 = Dille fired a Mark 48 HS at November SSN
 00:17:58 = Gunston Hall LSD was hit by November SSN's Type 53 LR
 00:18:26 = Gunston Hall LSD was hit by November SSN's Type 53 LR
 00:18:28 = Gunston Hall LSD was destroyed by November SSN
 00:19:32 = November SSN was hit by Dille's Mark 48 HS
 00:19:52 = November SSN was destroyed by Dille
 00:20:00 = logbook entry and status report: mission objectives partially completed

Debrief and Lessons Learned

Well, we may have deep-sixed two of the best submarine crews in SOVPACFLT, but I'm still not happy with the outcome. We paid a big price for those kills, because the convoy we were shepherding got chewed up and spit out faster than we could react. The way the Soviet boats came out of the gate shooting, those poor skimmers didn't have a chance.

The greatest problem posed by the engagement was the coordination evidenced by the Soviet crews. Both units

Figure 8-1 Victor III begins lobbing missiles immediately. *Seawolf* has no choice but to use Sea Lance. Nevertheless, the enemy boat scored three kills before being destroyed.



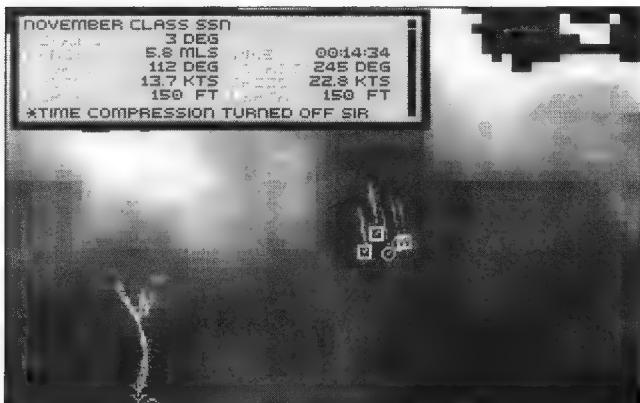


Figure 8-2 November is attacking from the west while the Seawolf is attempting to get into striking distance.



Figure 8-3 A generous view of a sad turn of events.

had maneuvered into optimum attack profiles before detection, and were conducting simultaneous attacks from geographically separated positions. The *Seawolf* could not be in two places at once, so losses were inevitable. Further, the Victor III's use of standoff cruise missiles shortened the reaction timeline considerably. Based on the immediacy of the threat posed by the Victor III, it was determined that a standoff Sea Lance prosecution would be best.

This strategy allowed the *Seawolf* to close with the November as rapidly as possible, thereby minimizing the damage she could inflict before being destroyed. The down side of the approach was that, if the Sea Lance shots had failed to destroy the Victor III, the remainder of the convoy would have been history as well. We may have "lucked out" in this instance, but when I stop to consider the families of the men on those ships, I don't feel that lucky. I think this mission was a failure Gentlemen, and I expect you to do better in the future. CINCPACFLT doesn't view it the way I do, as you can see from his message.

I'm not quite sure how he can say what he does in this message, but I think he probably feels that we made the best of a bad situation. To me, that is an easier belief to hold than the alternative; that he is as disappointed as I am but simply can't afford to inform us of the fact, for whatever reason. Think about it, gentlemen. What if those were your families hearing a knock on the door tomorrow from the Chaplain and some ensign in dress whites? Let's not allow this to happen again!



MISSION TWENTY-ONE: SECRET SERVICE

Situation Briefing

A secret accord between Iran and the Russians has resulted in Iranian tankers' being detailed to bring oil and other supplies to the besieged port of Vladivostok. To ensure the safe arrival of these supplies, the Soviets have detailed some of their reserve attack boats to escort duty. The Pentagon is currently feigning ignorance of the accord while units can be moved into the area to intercept this shipment of contraband.

Intelligence Briefing

The attack boats detailed to escort the Iranian shipments are third-line reserves at best, which should pose little resistance for units on ASUW missions against the convoy. Expect these escorts to remain in close proximity to their charges, perhaps even underneath them in an attempt to mask their own sound signatures in the wash of merchant noise.

Synopsis of Orders

The *Seawolf* will locate and engage the Iranian convoy and any escorting submarines. Leave nothing to chance. Take cripples without regard to the safety of their crews or the normal constraints imposed by the Geneva Convention. The environmental impact of this attack will be severe but unfortunately it is unavoidable.

Rules of Engagement

Warning Yellow, Weapons Tight. Hostile action is not anticipated until the *Seawolf* initiates the engagement. Weapons are free once the *Seawolf* has determined that a contact is part of the group of interest.

Executive Officer's Comments

This one looks like a vacation in the Bahamas compared to what we've been through up to this point, Captain. All we need to do is stay at attack

depth in a 3.5-knot passive search profile, find the bad guys, and kill them. We don't even have to worry about influencing their hearts and minds, what more could you ask for?

The Captain's Log

Mission time: 00:20:30

Ships destroyed: 5

Subs destroyed: 1

Torpedoes used: 19

Torpedoes hit: 18

Torpedoes evaded: 0

Torpedoes hit us: 0

Noisemakers used: 0

Active sonar: 0

Ident. right/wrong: 0/0

00:04:42 = Dille fired a Mark 48 HS at Victor II SSN

00:04:46 = Dille fired a Mark 48 HS at Victor II SSN

00:05:02 = Dille fired a Mark 48 LR at Victor II SSN

00:05:26 = Dille fired a Mark 48 WH at Oil Tanker

00:05:32 = Dille fired a Mark 48 WH at Oil Tanker

00:06:08 = Dille fired a Mark 48 WH at Oil Tanker

00:06:14 = Victor II SSN was hit by Dille's Mark 48 HS

00:06:16 = Victor II SSN dropped a noisemaker

00:06:18 = Victor II SSN was hit by Dille's Mark 48 HS

00:06:38 = Victor II SSN was destroyed by Dille

00:07:08 = Oil Tanker was hit by Dille's Mark 48 WH

00:07:12 = Oil Tanker was hit by Dille's Mark 48 WH

00:07:28 = Dille fired a Mark 48 WH at Oil Tanker

00:07:50 = Oil Tanker was hit by Dille's Mark 48 WH

00:08:18 = Dille fired a Mark 48 WH at Oil Tanker

00:08:20 = Dille fired a Mark 48 WH at Oil Tanker

00:09:00 = Oil Tanker was hit by Dille's Mark 48 WH

00:09:32 = Dille fired a Mark 48 WH at Oil Tanker

00:09:36 = Dille fired a Mark 48 WH at Oil Tanker

00:09:40 = Dille fired a Mark 48 WH at Oil Tanker

00:10:48 = Mark 48 LR was detonated by Dille
 00:10:50 = Oil Tanker was hit by Dille's Mark 48 WH
 00:10:54 = Oil Tanker was hit by Dille's Mark 48 WH
 00:11:36 = Dille fired a Mark 48 WH at Oil Tanker
 00:11:50 = Oil Tanker was hit by Dille's Mark 48 WH
 00:11:54 = Oil Tanker was hit by Dille's Mark 48 WH
 00:12:22 = Oil Tanker was hit by Dille's Mark 48 WH
 00:12:54 = Oil Tanker was hit by Dille's Mark 48 WH
 00:12:56 = Oil Tanker was destroyed by Dille
 00:13:34 = Dille fired a Mark 48 HS at Oil Tanker
 00:13:34 = Dille fired a Mark 48 HS at Oil Tanker
 00:14:08 = Dille fired a Mark 48 HS at Oil Tanker
 00:14:36 = Dille fired a Mark 48 HS at Oil Tanker
 00:15:22 = Oil Tanker was hit by Dille's Mark 48 HS
 00:15:22 = Oil Tanker was hit by Dille's Mark 48 HS
 00:15:24 = Oil Tanker was destroyed by Dille
 00:15:24 = Oil Tanker was hit by Dille's Mark 48 HS
 00:15:26 = Oil Tanker was destroyed by Dille
 00:16:08 = Oil Tanker was hit by Dille's Mark 48 HS
 00:17:00 = Dille fired a Mark 48 HS at Oil Tanker
 00:18:14 = Dille fired a Mark 48 LR at Oil Tanker
 00:18:20 = Oil Tanker was hit by Dille's Mark 48 HS
 00:18:22 = Oil Tanker was destroyed by Dille
 00:20:26 = Oil Tanker was hit by Dille's Mark 48 LR
 00:20:28 = Oil Tanker was destroyed by Dille
 00:20:30 = logbook entry and status report:
 mission successfully
 completed

Figure 8-4 Victor II is buried underneath the oil tankers. *Seawolf* must stay bow on to the target at slow speed to discern his signature in the surrounding noise.

Debrief and Lessons Learned

No lessons really, from this mission. If you guys couldn't pull this one off in your sleep, I would resign my commission. The *Seawolf* came perpendicular to the suspected group shortly after arriving on station.

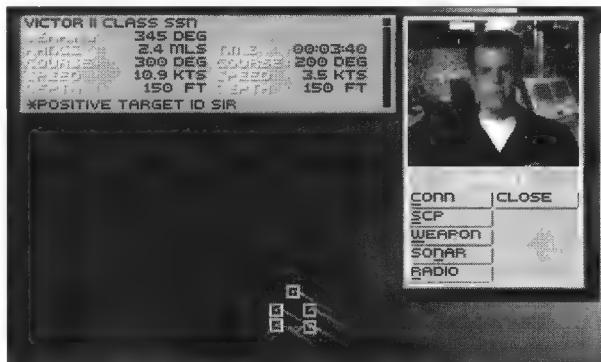




Figure 8-5 For a greater percentage of hits, go for beam shots on groups of unescorted merchants.

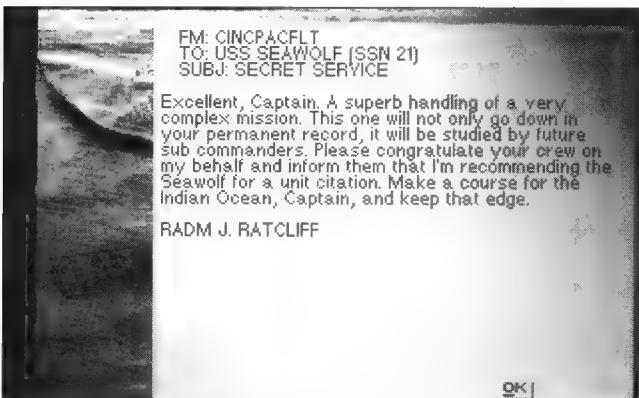


Figure 8-6 The new CINCPACFLT expresses his gratitude. Some recognition is better than nothing.

Picking up the group of interest was a short, painless process. They obliged us in our slow approach to a classic WWII beam attack by maintaining course and speed throughout, seemingly unaware of the death and destruction we were about to visit upon them. The Victor II never budged from his patrol route, and was probably still blissfully ignorant of our presence when the two Mk 48s ripped him open like M-80s in a beer can. I guess it's better to go that way than to see it coming. Anyway, the rest of the attack was pretty much straight out of the textbook for an unescorted group of merchants.

Some of the new hands on board are probably feeling a little cheated by this mission. It certainly didn't challenge the reflexes you've had to develop over the last few weeks, did it? That's alright—I'm sure you'll get more than enough stimulation in the days ahead. For those crew members who, like me, were in the service during the Iranian hostage crisis, chances are you feel as I do. It's always nice to exact a little painless payback when the opportunity presents itself. That is all.



MISSION TWENTY-TWO: IRAN-BUSTING

Situation Report

The Iranians appear to be countering the recent destruction of their tankers with a little poaching of their own. Attacks on U.S.-flag tankers departing the Persian Gulf through the Straits of Hormuz have increased dramatically. Iranian Kilo class submarines are the suspected culprits. The pres-

ence of a carrier battle group in the North Arabian Sea has kept other Iranian naval assets bottled up in port, and their airpower grounded as well, but those submarines must be stopped.

Intelligence Report

There are currently four Iranian Kilo class submarines unaccounted for in the global locator report compiled from all intelligence sources. These are the only possible sources of the attacks we are now suffering. The pattern of the attacks experienced so far defines a roughly geometric box, extending from the mouth of the Straits of Hormuz to 30 nautical miles into the North Arabian Sea. All units assigned to search and destroy operations against these targets will initially confine their efforts to the designated "hot zone." All units are advised that the eastern half of this zone includes a blue SSBN bastion. Remain alert to the possibility of blue-on-blue engagements. In addition, one or more Soviet submarines may be in the area to observe the Iranian activity and possibly to intervene in support of their attacks.

Synopsis of Orders

The *Seawolf* will proceed to the area of the most recent Iranian submarine activity, locate the offenders, and send them to Allah.

Rules of Engagement

Warning Red, Weapons Tight against subsurface contacts. You must positively identify contacts as hostile prior to engagement. Warning White, Weapons Tight on all other shipping. There are no known hostile surface or air platforms in the area.

Executive Officer's Comments

Well, Captain, the bad news is that we probably trained a lot of our counter-part officers on those Iranian Kilo's back in the days when the Shah was still welcome at a meeting of the local garden club. That means they know a lot of our tactics and we'll probably find that they react better than the other diesel boats we've encountered up to this point. The same

old rules apply—it doesn't take much to kill him once you find him, but we may find that these guys know how to hide long enough to get off the first shots.

The Captain's Log

Mission time: 00:44:00

Ships destroyed: 0

Subs destroyed: 4

Torpedoes used: 10

Torpedoes hit: 4

Torpedoes evaded: 4

Torpedoes hit us: 2

Noisemakers used: 4

Active sonar: 0

Ident. right/wrong: 2/0

00:04:26 = Kilo SS fired a Type 53 LR at Knox FF

00:04:46 = Dille fired a Sea Lance at Kilo SS

00:04:54 = Kilo SS fired a Type 53 LR at Knox FF

00:06:00 = Dille fired a Sea Lance at Kilo SS

00:07:08 = Kilo SS fired a Type 53 HS at Spruance DD

00:07:18 = Kilo SS fired a Type 53 HS at Spruance DD

00:07:28 = Kilo SS was hit by Dille's Sea Lance

00:07:48 = Kilo SS was destroyed by Dille

00:08:54 = Kilo SS dropped a noisemaker

00:08:58 = Spruance DD dropped a depth charge

00:09:16 = Kilo SS fired a Type 53 LR at Knox FF

00:09:16 = Spruance DD dropped a depth charge

00:09:26 = Spruance DD dropped a depth charge

00:09:26 = Knox FF was hit by Kilo SS's Type 53 LR

00:09:42 = Spruance DD was hit by Kilo SS's Type 53 HS

00:09:44 = Spruance DD was hit by Kilo SS's Type 53 HS

00:09:44 = Kilo SS fired a Type 53 LR at Knox FF

00:09:46 = Spruance DD was destroyed by Kilo SS

00:09:46 = Knox FF was destroyed by Kilo SS

00:10:58 = Spruance DD was hit by Spruance DD's Depth Charge

00:11:16 = Spruance DD was hit by Spruance DD's Depth Charge
00:11:26 = Spruance DD was hit by Spruance DD's Depth Charge
00:11:40 = Sacramento AOE was hit by Kilo SS's Type 53 LR
00:11:50 = Sacramento AOE was hit by Kilo SS's Type 53 LR
00:11:52 = Sacramento AOE was hit by Kilo SS's Type 53 LR
00:11:54 = Sacramento AOE was destroyed by Kilo SS
00:13:10 = Dille fired a Mark 48 HS at Kilo SS
00:13:14 = Dille fired a Mark 48 LR at Kilo SS
00:14:16 = Kilo SS fired a Type 53 LR at secondary waypoint
00:14:44 = Kilo SS fired a Type 53 LR at secondary waypoint
00:15:44 = Kilo SS was hit by Dille's Mark 48 HS
00:16:04 = Kilo SS was destroyed by Dille
00:16:18 = Dille fired a Mark 48 HS at secondary waypoint
00:16:36 = Dille dropped a noisemaker
00:16:48 = Dille dropped a noisemaker
00:17:12 = Mark 48 HS was detonated by Dille
00:17:50 = Mark 48 LR was detonated by Dille
00:21:34 = Dille dropped a noisemaker
00:23:40 = November SSN fired a SS-N-15 Missile at Dille
00:24:20 = Kilo SS fired a SS-N-15 Missile at Dille
00:25:00 = Dille dropped a noisemaker
00:27:14 = Dille correctly identified Kilo SS
00:27:22 = Dille was hit by Kilo SS's SS-N-15 Missile
00:27:28 = Dille was hit by November SSN's SS-N-15 Missile
00:27:38 = damage control report: damage to drop tubes
00:29:06 = Kilo SS fired a Type 53 LR at Oil Tanker
00:29:32 = Dille fired a Mark 48 HS at Kilo SS
00:29:34 = Kilo SS fired a Type 53 LR at Oil Tanker
00:29:34 = Dille fired a Mark 48 LR at Kilo SS
00:30:56 = Kilo SS dropped a noisemaker
00:31:38 = Kilo SS was hit by Dille's Mark 48 LR
00:31:58 = Kilo SS was destroyed by Dille
00:33:02 = Kilo SS fired a Type 53 LR at Oil Tanker
00:33:30 = Kilo SS fired a Type 53 LR at Oil Tanker
00:33:38 = Oil Tanker was hit by Kilo SS's Type 53 LR
00:33:52 = Oil Tanker was hit by Kilo SS's Type 53 LR

00:35:54 = November SSN fired a Type 53 HS at Dille
00:36:02 = Oil Tanker was hit by Kilo SS's Type 53 LR
00:36:04 = Oil Tanker was destroyed by Kilo SS
00:36:22 = November SSN fired a Type 53 HS at Dille
00:37:06 = Dille correctly identified Kilo SS
00:37:22 = Dille fired a Mark 48 LR at Kilo SS
00:37:54 = Kilo SS fired a Type 53 LR at Oil Tanker
00:39:56 = November SSN fired a Type 53 HS at Dille
00:40:24 = November SSN fired a Type 53 HS at Dille
00:40:36 = Dille fired a Mark 48 HS at Kilo SS
00:40:42 = Dille fired a Mark 48 LR at Kilo SS
00:41:28 = Kilo SS dropped a noisemaker
00:42:18 = Oil Tanker was hit by Kilo SS's Type 53 LR
00:43:14 = Kilo SS was hit by Dille's Mark 48 HS
00:43:34 = Kilo SS was destroyed by Dille
00:44:00 = logbook entry and status report:
mission successfully completed

Debrief and Lessons Learned:

The *Seawolf* was conducting a routine patrol at 3.5 knots, depth 150, towed array deployed, when the four Kilo class SS were located. Figure 8-7 illustrates the relative positioning of units.

Because all of the targets posed an equivalent level of threat to the mission, the normal order of engagement would have been to eliminate the closest target and continue outward. Unfortunately, because of the geographic separation of these targets, a different approach was required. I concurred with the Executive Officer's recommendation that we engage the Kilo to the northwest with Sea Lance, then proceed in a clockwise manner around the tactical map to destroy the remaining targets.

Time was of the essence, so the *Seawolf* sought to engage each of the Kilos at maximum weapons range, using followup shots only when necessary. The only exception to this approach was the Kilo to the north-

Figure 8-7 The Kilos complicate the tactical situation by using multiple angles of approach.





Figure 8-8 Taking the "Trailer" in the northeast quadrant.



Figure 8-9 The southeastern Kilo bites the dust.

east, which was tightly trailing a group of merchants. Her position required greater closure prior to the shot to avoid endangering the non-combatants.

Following the second kill, the *Seawolf* increased speed to half power and commenced an urgent approach on the Kilo to the southeast. This resulted in a quick, clean kill, but unfortunately, it also alerted another intruder that we were not aware of. As the *Seawolf* turned west to close with the last Kilo, we began taking fire from an unseen adversary. Rather than breaking off the approach on the Kilo to slow and find the culprit, it seemed wiser to keep speed on and remain evasive while we set up the attack on the contact held.

The *Seawolf* sustained some light damage during this attack, but successfully avoided several potentially fatal shots as well. Good reactions and quick thinking on the part of the ship control

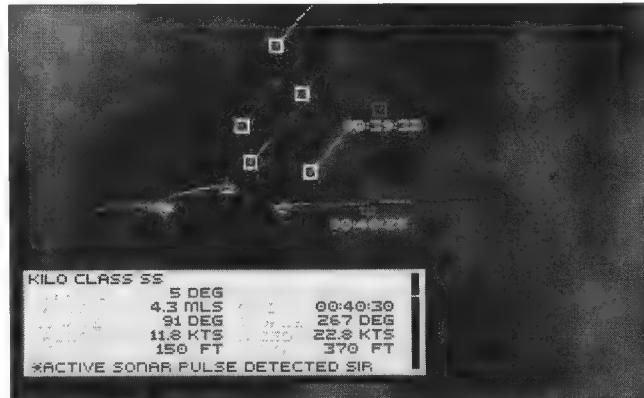


Figure 8-10 After turning west for the last Kilo, the *Seawolf* begins taking fire from an undetected fifth submarine, presumed Soviet.

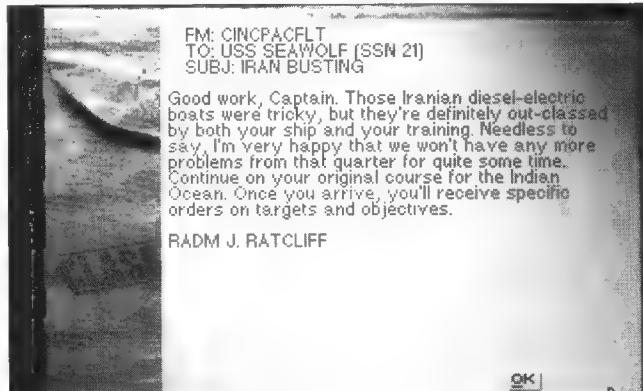


Figure 8-11 More kudos for the crew of the *Seawolf*, but another mission as well.

team—well done, boys! Once we had killed the final Kilo, nothing more was heard from the mystery “fifth submarine.” Subsequently, Intelligence message traffic has led us to believe that it was probably a Soviet November class SSN, which just happened to be transiting the area when our little barroom brawl began.



MISSION TWENTY-THREE: INDIAN OCEAN MELEE

Situation Report

A small surface engagement is raging north of the vital Diego Garcia Naval Base in the Indian Ocean. The Soviet force has gained the upper hand, initially at least, and a Soviet victory appears imminent. The U.S. cannot afford to lose Diego Garcia as a forward staging area and pre-positioning point for critical war supplies. The *Seawolf* is being ordered into the area to engage the Soviets and turn the tide of battle.

Intelligence Briefing:

Friendly forces are a critical supply convoy and her escorts. The original force has suffered losses and the action is ongoing. As such, the following friendly OOB is subject to change prior to *Seawolf's* arrival on station:

- 1 Iowa class BB
- 1 Ticonderoga class CG
- 1 Kidd class DDG
- 1 Knox class FF
- 2 Sacramento class AOE
- 2 Gunston Hall class LPD
- 2 MSC Merchant Ships

The Soviets have mounted a credible offensive so far, centered on the following ships:

- 1 Moskva class CGH
- 1 Kresta class CG
- 1 Slava class CG

1 Sovremenny class DD

1 Alfa class SSN

Additionally, the Moskva is known to be using its KA-25 Hormones for over-the-horizon targeting and ASW support. The *Seawolf* should enter the area using extreme caution and forethought.

Synopsis of Orders

The *Seawolf* is to move with haste to the contested area and annihilate the Soviet task force. You are advised to clear the area of Soviet subs prior to commencing your attack runs on the surface targets.

Rules of Engagement

Warning Red, Weapons Tight. Hostile action is in progress, but the close proximity of friendly and enemy assets dictates that the *Seawolf* must positively identify all contacts before engagement.

Executive Officer's Comments

Captain, please understand that I mean no disrespect for our chain of command in what I am about to say, but I really believe it needs to be said. Those guys are supposed to be “big-picture” players up there. They set the missions, then leave it up to guys like you and me to execute them however we see fit. Sure, rules of engagement are necessary, but since when did they start dictating tactics, or the order we should take our targets in?

It’s easy to sit at a desk and say, “Oh, by the way, kill the Alfa before anything else,” when they have no idea what the actual situation will be once we get there. Hell, it could be that one of our surface guys has already wasted him and we just haven’t got the word yet. In that case, we chase our tail for the duration, looking for something that isn’t there any more and not contributing to the scrap that’s going on topside.

That’s a load of crap, Captain, and you know it as well as I do. The on-scene commander should be permitted to choose targets in whatever order he thinks is best and take the consequences of those decisions. Combat is too fluid and dynamic for it to work right any other way. The problem is, once the pencil pusher has phrased it the way he did, what

choice do we have? Those are our orders and we've got to eat them, like it or not. I only hope the Alfa cooperates with the Admiral's battle plan and gives us a quick, easy target. Okay, I've said my piece, I'll get down off the soapbox and go do my job. Thanks for hearing me out, Captain.

The Captain's Log

Mission time: 00:58:30

Ships destroyed: 1

Subs destroyed: 1

Torpedoes used: 6

Torpedoes hit: 4

Torpedoes evaded: 0

Torpedoes hit us: 0

Noisemakers used: 0

Active sonar: 0

Ident. right/wrong: 2/0

00:15:26 = Slava CG fired an Anti-Ship Missile at Knox FF

00:15:28 = Moskva CGH fired an Anti-Ship Missile at Knox FF

00:15:28 = Iowa BB fired a Tomahawk at Moskva CGH

00:15:46 = Knox FF was hit by Moskva CGH's Anti-Ship Missile

00:15:48 = Moskva CGH was hit by Iowa BB's Tomahawk

00:15:48 = Knox FF was hit by Moskva CGH's Anti-Ship Missile

00:15:50 = Knox FF was destroyed by Moskva CGH

00:16:08 = Moskva CGH was destroyed by Iowa BB

00:24:32 = Slava CG fired an Anti-Ship Missile at Kidd DDG

00:24:34 = Iowa BB fired a Tomahawk at Slava CG

00:24:46 = Kresta II CG fired an Anti-Ship Missile at Kidd DDG

00:24:52 = Kidd DDG was hit by Kresta II CG's Anti-Ship Missile

00:24:54 = Slava CG was hit by Iowa BB's Tomahawk

00:25:06 = Kidd DDG was hit by Kresta II CG's Anti-Ship Missile

00:25:08 = Kidd DDG was destroyed by Kresta II CG

00:25:14 = Slava CG was destroyed by Iowa BB

00:28:10 = Kresta II CG fired an Anti-Ship Missile at Iowa BB

00:28:10 = Iowa BB fired a Tomahawk at Kresta II CG

00:28:30 = Kresta II CG was hit by Iowa BB's Tomahawk

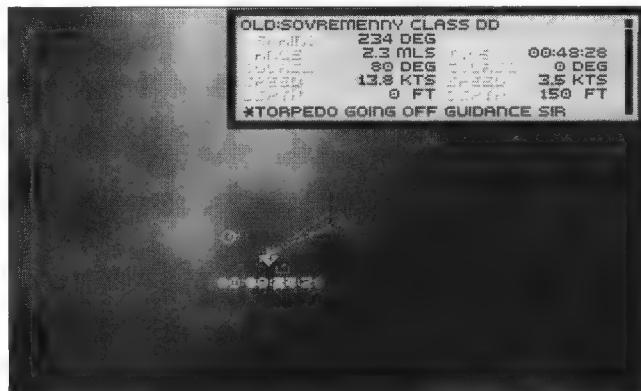
00:28:30 = Iowa BB was hit by Kresta II CG's Anti-Ship Missile
 00:28:50 = Kresta II CG was destroyed by Iowa BB
 00:41:02 = Dille correctly identified Alfa SSN
 00:44:36 = Dille fired a Mark 48 LR at Sovremenny DD
 00:46:30 = Sovremenny DD dropped a noisemaker
 00:46:42 = Sovremenny DD was hit by Dille's Mark 48 LR
 00:46:50 = Dille fired a Mark 48 HS at Sovremenny DD
 00:48:34 = Sovremenny DD was hit by Dille's Mark 48 HS
 00:48:36 = Sovremenny DD was destroyed by Dille
 00:54:20 = Dille correctly identified Alfa SSN
 00:55:08 = Dille fired a Sea Lance at Alfa SSN
 00:55:12 = Dille fired a Sea Lance at Alfa SSN
 00:56:00 = Dille fired a Mark 48 HS at Alfa SSN
 00:56:06 = Dille fired a Mark 48 LR at Alfa SSN
 00:56:16 = Alfa SSN dropped a noisemaker
 00:56:20 = Alfa SSN was hit by Dille's Sea Lance
 00:58:06 = Alfa SSN was hit by Dille's Mark 48 HS
 00:58:26 = Alfa SSN was destroyed by Dille
 00:58:30 = logbook entry and status report:
 mission objectives partially completed

Debrief and Lessons Learned:

The *Seawolf* can score this one only as a partial success, although I personally feel that no one in the crew is to blame for that shortfall. Before the engagement, the Executive Officer and I discussed the potential ramifications of the Admiral's desire that we focus on the Alfa before initiating any engagements with the Soviet surface ships. Unfortunately, some of the reservations we expressed at that time are now reality.

We were 40 minutes into the engagement before gaining initial contact on the Alfa. During that period of inactivity on our part, at least in terms of expending

Figure 8-12 The *Seawolf* enjoys a Hollywood flashback, engaging this Sovremenny with a bow shot, made famous by Captain Edward L. Beach's epic war story, *Run Silent, Run Deep*.



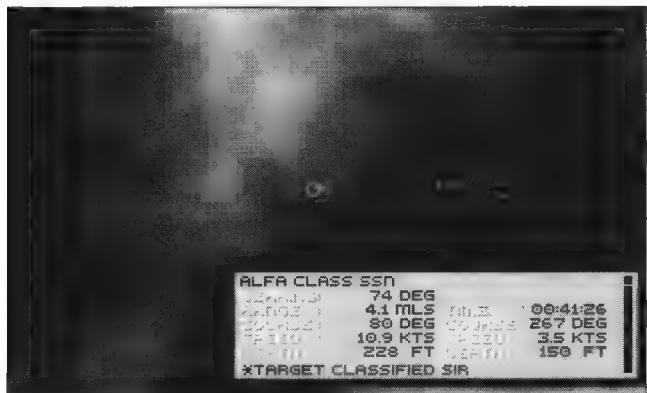


Figure 8-13 The *Seawolf* goes “quail hunting” for the Alfa.

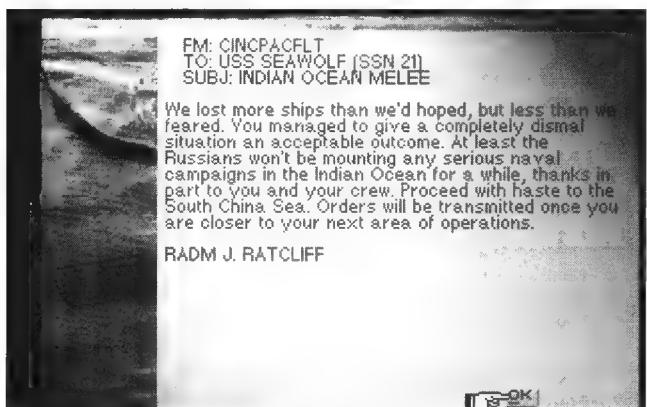


Figure 8-14 What does he expect, given the unplayable hand that the *Seawolf* was dealt?

ordnance, the boys up top continued to slug it out. They actually fared quite well—Moskva, Slava, and a Kresta II are history, at the cost of one Kidd class DDG and a Knox class FF, which were destined to become razor blades anyway before this war broke out. The problem I have with that line of reasoning is this: Screw the numerical comparisons by the bean counters who use slide rules to decide who came out on top. The *Seawolf* could have made a difference and perhaps saved the Kidd and the Knox, *and their crews*, had we been allowed to get into the thick of it. I only share my personal feelings on the matter because I know that many of you felt the same way . . . but now it's said and done. Get over it! We had our orders and we followed them. On with the briefing.

Shortly after we gained contact on the Alfa, the lone Soviet survivor of the surface battle, a Sovremenny Class DD, came charging down the pipe at us. We gave him the old Clark Gable, *Run Silent, Run Deep*, “Bongo Pete” bow shot and that was the end of that nuisance.

The subsequent engagement of the Alfa SSN added a new corollary to the Executive Officer’s bag of tricks for this particular adversary. In addition to the silent ambush method, which we have used successfully in the past, we came up with an approach I choose to call “quail hunting.” When the Alfa is about 3 to 4 miles away and pointed in your direction, lob a Sea Lance astern of him. When it acquires, he will increase speed to go evasive and has no hope of gaining passive contact on the *Seawolf* while he is running.

Think of this as flushing a covey of quail. In a one-on-one situation like this one, this gives the *Seawolf* a lot more freedom to maneuver for

the killing shot. If you're lucky, his evasion pattern may send him right at you, which happened in this case, and you can shoot him in the face with a Mk 48 high-speed. End of story, end of lesson.



MISSION TWENTY-FOUR: FORMOSA STRAIT

Situation Report

The People's Republic of China has decided to capitalize on the existing state of confusion to settle an old score with Taiwan. Just yesterday, they initiated a full-scale airborne and amphibious assault on the island nation. With good supply, these troops could besiege Taiwan in a long and bloody struggle. In the hope of preventing that eventuality, and possibly forcing a quick surrender by the invasion troops already on the island, the *Seawolf* is being sent to the Formosa Strait to interdict Chinese attempts to resupply their beachhead.

Intelligence Report

The *Kobiashi Maru*, a Japanese commercial fishing vessel, reported a large group of mixed merchant and military shipping in the vicinity of the Formosa Strait just 4 hours ago. The exact composition of the group was not confirmed, but CINCPACFLT's staff views this sighting as confirmation of an earlier report about the Chinese resupply effort. That assumption, if validated, means that you can expect to encounter a group of six Alligator LSTs intermingled with other merchant traffic. The latter are being held in formation against their will for the purpose of cover and deception. The enforcers of this plan are two Jianghu FFLs and two Han class submarines.

Synopsis of Orders

Interdict the Chinese convoy and sink as many of the troop transports as possible, as well as their military escorts. Do not under any circumstances damage or destroy the neutral flag shipping that is being held hostage.

Rules of Engagement

Warning Yellow, Weapons Tight. Hostile action from the PRC units is not expected until the *Seawolf* initiates the combat. Verify all targets as hostile prior to engagement and maintain positive control of weapons whenever possible. Concurrent damage of neutrals in the accomplishment of mission objectives is not acceptable.

Executive Officer's Comments:

The Jianghus and Alligators will pretty much be a duck shoot, as long as we take a little extra time to refine our targeting solutions to ensure that we don't hit any of the hostages. The Han submarines, however, are an unknown quantity. We haven't run into these guys in the past and the intelligence boards don't have much to say about their level of crew training one way or the other. I think we need to play it safe and give them a lot of respect up front. We should go into the area slow and easy until we can find our little playmates, then get rid of them first. After that, the rest is gravy.

The Captain's Log

Mission time: 01:01:00

Ships destroyed: 8

Subs destroyed: 1

Torpedoes used: 12

Torpedoes hit: 10

Torpedoes evaded: 3

Torpedoes hit us: 1

Noisemakers used: 5

Active sonar: 0

Ident. right/wrong: 1/0

00:38:14 = Dille fired a Mark 48 HS at Han SSN

00:39:06 = Dille fired a Harpoon at Jianghu FFL

00:39:08 = Han SSN fired a Type 53 LR at Dille

00:39:16 = Dille fired a Mark 48 LR at Han SSN

00:39:26 = Jianghu FFL was hit by Dille's Harpoon

00:39:36 = Han SSN fired a Type 53 LR at Dille
00:39:46 = Jianghu FFL was destroyed by Dille
00:40:24 = Han SSN was hit by Dille's Mark 48 HS
00:40:26 = Han SSN fired a SS-N-15 Missile at Dille
00:40:34 = Han SSN fired a Type 53 LR at secondary waypoint
00:41:02 = Han SSN fired a Type 53 LR at secondary waypoint
00:41:28 = Dille fired a Harpoon at Alligator 3 LST
00:41:32 = Han SSN dropped a noisemaker
00:41:40 = Dille dropped a noisemaker
00:41:48 = Alligator 3 LST was hit by Dille's Harpoon
00:42:08 = Alligator 3 LST was destroyed by Dille
00:42:48 = Han SSN fired a SS-N-15 Missile at Dille
00:43:46 = Dille fired a Mark 48 WH at Alligator 3 LST
00:44:18 = Dille fired a Mark 48 WH at Alligator 3 LST
00:44:56 = Dille fired a Mark 48 WH at Alligator 3 LST
00:45:02 = Dille dropped a noisemaker
00:46:46 = Han SSN dropped a noisemaker
00:47:10 = Dille dropped a noisemaker
00:47:34 = Dille was hit by Han SSN's SS-N-15 Missile
00:47:42 = Alligator 3 LST was hit by Dille's Mark 48 WH
00:47:56 = Alligator 3 LST was hit by Dille's Mark 48 WH
00:47:56 = damage control report: steam leak in the engine room
00:47:58 = Alligator 3 LST was destroyed by Dille
00:48:34 = Alligator 3 LST was hit by Dille's Mark 48 WH
00:48:54 = Alligator 3 LST was destroyed by Dille
00:49:08 = Dille dropped a noisemaker
00:49:18 = Han SSN fired a Type 53 LR at secondary waypoint
00:49:46 = Han SSN fired a Type 53 LR at secondary waypoint
00:50:22 = Dille correctly identified Han SSN
00:50:54 = Dille fired a Mark 48 HS at Han SSN
00:50:58 = Dille fired a Mark 48 HS at Han SSN
00:51:06 = Dille fired a Mark 48 LR at Han SSN
00:51:16 = Han SSN dropped a noisemaker
00:51:42 = Dille fired a Tomahawk at Jianghu FFL
00:51:48 = Han SSN was hit by Dille's Mark 48 HS
00:51:52 = Han SSN was hit by Dille's Mark 48 HS

00:51:54 = Han SSN was destroyed by Dille
00:52:02 = Jianghu FFL was hit by Dille's Tomahawk
00:52:22 = Dille fired a Tomahawk at Alligator 3 LST
00:52:22 = Jianghu FFL was destroyed by Dille
00:52:42 = Alligator 3 LST was hit by Dille's Tomahawk
00:53:02 = Alligator 3 LST was destroyed by Dille
00:54:06 = Dille fired a Mark 48 WH at Alligator 3 LST
00:54:16 = Dille fired a Mark 48 WH at Alligator 3 LST
00:54:24 = Dille dropped a noisemaker
00:55:24 = Dille fired a Mark 48 LR at Alligator 3 LST
00:55:44 = Dille fired a Mark 48 LR at Alligator 3 LST
00:59:08 = Alligator 3 LST was hit by Dille's Mark 48 WH
00:59:20 = Alligator 3 LST was hit by Dille's Mark 48 WH
00:59:22 = Alligator 3 LST was destroyed by Dille
01:00:26 = Alligator 3 LST was hit by Dille's Mark 48 LR
01:00:40 = Alligator 3 LST was hit by Dille's Mark 48 LR
01:00:42 = Alligator 3 LST was destroyed by Dille
01:01:00 = logbook entry and status report:
mission successfully completed

Debrief and Lessons Learned

Once the main body was located, *Seawolf* began the approach at one-quarter power, beneath the thermal layer with towed array deployed. Contact on the Han submarines was intermittent because of the intervening thermal layer, but the merchants were noisy enough to continually update the position of the convoy for us. Once we attained attack position, it became apparent that the close proximity of the contacts would make target selection and prosecution a chancy process.

Initial salvos against the Han confirmed the Executive Officer's suspicions that they might prove worthy opponents. The first Han offered a decent defense,

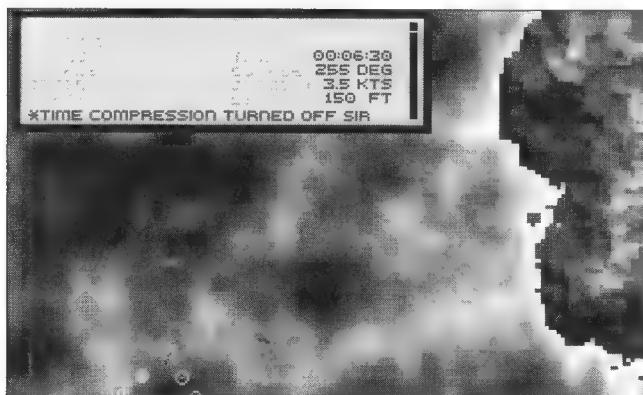


Figure 8-15 The convoy and her escorts are to the southeast at problem start.

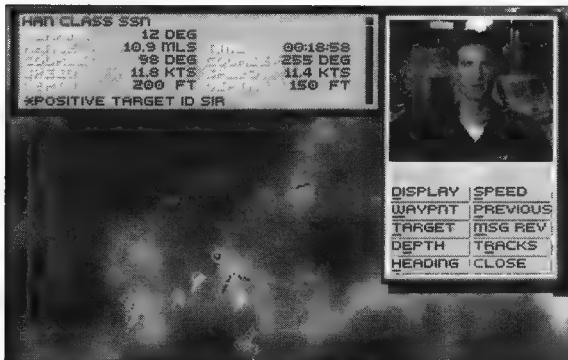


Figure 8-16 Proximity of friendly shipping is a constant concern for the *Seawolf* in this engagement.



Figure 8-17 Time 00:46, in the thick of it!

countering the *Seawolf*'s salvos with shots of her own, forcing both of us into evasive maneuvers. We can confirm that one of our torpedoes struck home on her, but sonar never registered any sounds of the hull breaking up. Consequently, she was not listed as a confirmed kill.

The prosecution of the surface groups proceeded exactly as expected. The *Seawolf* scored kills as quickly as she could reload her tubes, all the while looking for the absent second Han submarine. She appeared in the middle of the ASW phase, forcing the *Seawolf* to break off temporarily and devote her entire attention to the sub.

Han II proved to be resilient like her sister, but not quite as lucky. She was scraping up bottom sediment in rather short order, and the *Seawolf* returned to finishing off the stragglers from the now scattered surface group.

The lesson to be carried away from this engagement is so simple and basic that everyone should already know it, but



Figure 8-18 The last Han going down.



Figure 8-19 Taiwan can breathe a little easier now that this day is done.

it is violated so frequently as to indicate that they do not. Never, under any circumstances, underestimate your opponent. And that goes double for opponents whom you know little about.



MISSION TWENTY-FIVE: BLOCKADE BUSTING

Situation Report:

U.S. forces in Korea are under siege and must be evacuated quickly to Japan. Soviet warships are currently setting up a loose blockade to attempt to prevent this relocation. Their efforts seem to be centered around the port of Kita-Kyushu, so CINCPACFLT has ordered the *Seawolf* into Japanese waters to counter the Soviet initiative.

Intelligence Report

The Soviet blockade is composed of a ragtag group of survivors from earlier engagements. The quality of individual crews will be high, but do not expect them to work together jointly with the precision you may have come to expect. The composition of this group is as follows:

- 1 Moskva class CGH
- 1 Kresta class CG
- 1 Slava class CG
- 1 Krivak class FFG
- 1 Nanuchka class FFL
- 2 Sayany salvage and rescue ships
- 1 KA-25 Hormone for OTH targeting and ASW

The evacuation group consists of five Gunston Hall class LSDs. Merchant traffic in the area is expected to be light. The enemy submarine threat is considered to be extremely low in these waters.

Synopsis of Orders

Clear the waters off Kita-Kyushu of all Soviet shipping to pave a safe corridor for the evacuation group's transit. The *Seawolf* is slated to rearm and resupply after this mission, so expend ordnance at will to achieve the

objective. Do not leave stragglers or cripples in the corridor, because these survivors could radio locating data on our convoy to Backfire and Badger regiments based on the Soviet mainland.

Rules of Engagement

Warning Red, Weapons Tight. Ensure that the firing zone is clear of merchant traffic prior to engaging targets that have been classified hostile.

Executive Officer's Comments

It will be nice to do a little ASUW without having to worry about enemy subs in the area for a change. This should be a fairly easy mission, Captain, so I suggest we just sit back and watch the Junior Officers handle this one. We can always intervene to pull their fat out of the fire if need be, but I'm kind of curious as to just how much our boys have learned so far.

The Captain's Log

Mission time: 02:20:00

Ships destroyed: 10

Subs destroyed: 0

Torpedoes used: 18

Torpedoes hit: 14

Torpedoes evaded: 0

Torpedoes hit us: 0

Noisemakers used: 1

Active sonar: 1

Ident. right/wrong: 0/0

00:09:28 = Dille fired a Mark 48 WH at Moskva CGH

00:09:40 = Dille fired a Mark 48 WH at Moskva CGH

00:09:42 = Dille fired a Mark 48 WH at Moskva CGH

00:09:44 = Dille fired a Mark 48 WH at Moskva CGH

00:15:20 = Dille fired a Mark 48 WH at Slava CG

00:15:24 = Dille fired a Mark 48 WH at Slava CG

00:15:32 = Moskva CGH dropped a noisemaker

00:16:22 = Dille fired a Mark 48 WH at Slava CG

00:16:58 = Moskva CGH was hit by Dille's Mark 48 WH
00:19:16 = Dille fired a Mark 48 WH at Sayany Salvage/Rescue
00:19:24 = Dille fired a Mark 48 WH at Sayany Salvage/Rescue
00:21:06 = Dille fired a Mark 48 WH at Kresta I CG
00:21:34 = Slava CG dropped a noisemaker
00:22:42 = Slava CG was hit by Dille's Mark 48 WH
00:22:44 = Slava CG was hit by Dille's Mark 48 WH
00:23:10 = Sayany Salvage/Rescue was hit by Dille's Mark 48 WH
00:23:14 = Sayany Salvage/Rescue was hit by Dille's Mark 48 WH
00:23:16 = Sayany Salvage/Rescue was destroyed by Dille
00:27:24 = Dille fired a Mark 48 LR at Sayany Salvage/Rescue
00:27:26 = Dille fired a Mark 48 LR at Sayany Salvage/Rescue
00:27:58 = Dille fired a Mark 48 WH at Krivak I FFG
00:28:02 = Dille fired a Mark 48 WH at Krivak I FFG
00:30:06 = Kresta I CG dropped a noisemaker
00:32:22 = Sayany Salvage/Rescue was hit by Dille's Mark 48 LR
00:32:22 = Sayany Salvage/Rescue was hit by Dille's Mark 48 LR
00:32:24 = Sayany Salvage/Rescue was destroyed by Dille
00:34:14 = Slava CG was hit by Dille's Mark 48 WH
00:34:16 = Slava CG was destroyed by Dille
00:35:16 = Dille fired a Mark 48 LR at Nanuchka III FFL
00:35:26 = Krivak I FFG dropped a noisemaker
00:36:06 = Krivak I FFG was hit by Dille's Mark 48 WH
00:36:26 = Krivak I FFG was destroyed by Dille
00:36:42 = Dille fired a Mark 48 HS at Kresta I CG
00:36:50 = Dille fired a Mark 48 HS at Kresta I CG
00:38:22 = Dille fired a Mark 48 LR at Nanuchka III FFL
00:38:24 = Kresta I CG was hit by Dille's Mark 48 HS
00:38:30 = Kresta I CG was hit by Dille's Mark 48 HS
00:38:32 = Kresta I CG was destroyed by Dille
00:47:04 = Nanuchka III FFL dropped a noisemaker
00:47:10 = Nanuchka III FFL was hit by Dille's Mark 48 LR
00:47:34 = Nanuchka III FFL was hit by Dille's Mark 48 LR
00:47:36 = Nanuchka III FFL was destroyed by Dille
01:24:44 = Dille used active sonar

01:25:12 = Dille dropped a noisemaker
02:19:22 = Dille fired a Tomahawk at Moskva CGH
02:19:42 = Moskva CGH was hit by Dille's Tomahawk
02:19:44 = Moskva CGH was destroyed by Dille
02:20:00 = logbook entry and status report:
mission successfully completed

Debrief and Lessons Learned

Gentlemen, I'm pleased to see how far you have come along since the war began, but I hope none of you are feeling cocky about this last engagement. Granted, it was a success, but some things could have gone more smoothly as well. Let's review the facts.

You correctly prepared a four-shot salvo for Moskva—less would not have guaranteed getting the job done, more would have been overkill, but you only got one hit out of the salvo. The reason for the waste of the other torpedoes has nothing to do with mechanical failure, only with operator error. When you launched these torpedoes, you should have spaced them 4–6 seconds apart, time enough to allow a proper separation between shots. Because you sent them with 1- to 2-second spacing, the shock bubble created by the explosion of the first warhead to reach the target created a chain reaction in the torpedoes that followed, exploding the final three harmlessly in Moskva's wake. This meant we had to use an expensive cruise missile to finish the job at the end of the engagement. Lucky for you that we were slated to rearm after this mission anyway. If not, we



Figure 8-20 Initial disposition. Moskva is to the north, and has just been targeted with a salvo of four wake homers. Only one of the four would hit, and Moskva would have to be finished with a missile at the end of the engagement.

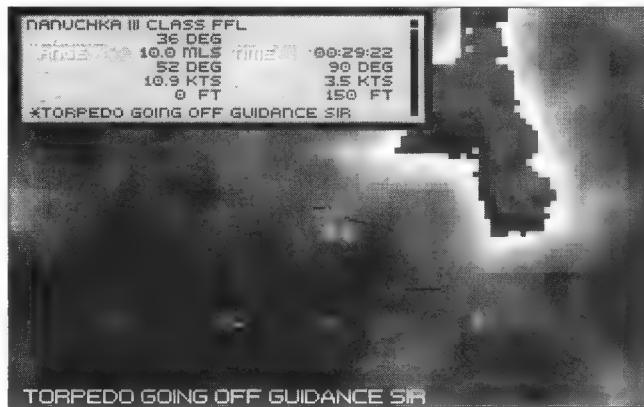


Figure 8-21 Phase One, breaking up the formation.



Figure 8-22 Phase Two, eliminating immediate threats and targets of opportunity.

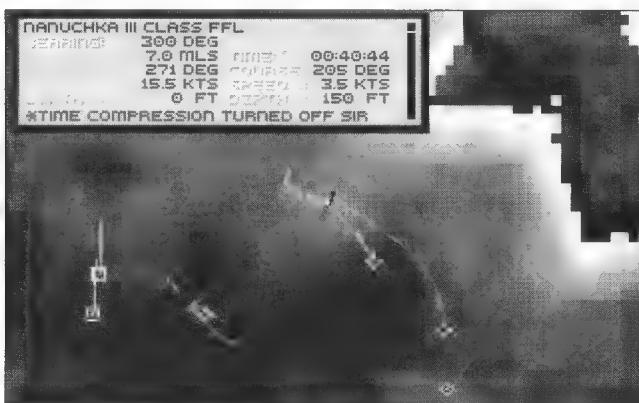


Figure 8-23 Phase Three, mopping up the stragglers.



Figure 8-24 Junior officer party in the wardroom after the mid-watch. The executive officer is buying the coffee; BYOC (bring your own cup).

might have needed that missile later on, in much more critical situations. Let's move to the next portion of the engagement.

The attack on the southern group was conducted in three distinct phases, as illustrated in the diagrams (Figures 8-21, 8-22, and 8-23).

The methodical approach that you used mirrored the textbook in many ways, and the Executive Officer and I are generally pleased with the performance, though we question the use of active sonar in an attempt to locate cripples. Far better to use the periscope sparingly and see exactly what's out there instead of alerting every bad guy within a 100-nm radius that the *Seawolf* is in town. You might also note that Moskva would have been located and disposed of much sooner had you used this simple method of performing after action-BDA (battle damage assessment). Here is what the big boss had to say about it.



MISSION TWENTY-SIX: EVACUATION

Situation Report:

With Korea now under joint Chinese and North Korean control, the U.S. is conducting an urgent evacuation of all remaining military and civilian personnel. The *Seawolf* has been ordered to escort the final convoy departing from Pusan harbor en route to Japan. Because of urgent commitments elsewhere, no surface assets could be spared to assist in this escort mission.

Intelligence Report

Convoy PN-246 consists of a ragtag collection of miscellaneous tanker, supply, and merchant ships, as well as three Gunston Hall LSDs and three Sacramento class AOEs. Basically, it was everything in the area that could float and carry our personnel to safety. The DPRK assets are too preoccupied looting the shops of their unlucky southern cousins to bother interfering with our evacuation effort, but the Chinese may not look the other way. They are still angry over our successful intervention in the Taiwan operation and will likely attempt to use this situation to exact some payback. Proceeding on that assumption, the only threats that *Seawolf* can expect to encounter will be Han Class submarines and Jianghu Class FFLs.

Synopsis of Orders

Escort PN-246 to safe harbor in Kita-Kyushu, then report to the port commander for further tasking. Because scattered civilians are present on every ship in the group, the loss of even one of these units would cause grave political consequences and bad press here at home. We cannot afford to let that happen, since the continued, unquestioned will to resist is currently the strongest weapon in our inventory.

Rules of Engagement

Warning Yellow, Weapons Tight. Hostile action is probable, but not imminent. If contact is gained on PRC assets, engage them proactively to remove the threat.

Executive Officer's Comments

It looks as if the shoe is on the other foot this time. Instead of us busting up their party, they are looking to crash ours. I like the other position better but, hey, somebody has got to do this job. I think they will probably come at us in two waves—first the subs, then the frigates. The former will try to sneak into firing positions undetected. Then, once they open up and we get busy, the latter will peek over the horizon and start lobbing their missiles. That's worst-case. To avoid it, we need to get out in front of the convoy about 4 to 6 miles and go slow, zigzagging back and forth until we pick up the Hans. If we can kill them outside their weapons release points, we will have hosed up the Chinese timeline, and picking off the frigates should be a snap.

The Captain's Log

Mission time: 01:06:00

Ships destroyed: 2

Subs destroyed: 2

Torpedoes used: 12

Torpedoes hit: 4

Torpedoes evaded: 0

Torpedoes hit us: 0

Noisemakers used: 4

Active sonar: 0

Ident. right/wrong: 2/0

00:27:40 = Dille fired a Sea Lance at Han SSN

00:28:50 = Han SSN dropped a noisemaker

00:29:56 = Dille fired a Sea Lance at Han SSN

00:31:06 = Han SSN dropped a noisemaker

00:31:42 = Dille fired a Mark 48 LR at Han SSN

00:32:46 = Dille fired a Mark 48 LR at Han SSN

00:32:48 = Dille fired a Mark 48 HS at Han SSN

00:34:48 = Han SSN fired a Type 53 LR at secondary waypoint

00:35:18 = Dille correctly identified Jianghu FFL

00:35:30 = Dille fired a Harpoon at Jianghu FFL

00:35:50 = Jianghu FFL was hit by Dille's Harpoon
00:36:10 = Jianghu FFL was destroyed by Dille
00:37:08 = Dille fired a Mark 48 LR at Han SSN
00:37:34 = Dille dropped a noisemaker
00:38:04 = Dille fired a Mark 48 LR at Han SSN
00:38:06 = Han SSN dropped a noisemaker
00:39:10 = Han SSN fired a Type 53 LR at secondary waypoint
00:39:14 = Han SSN was hit by Dille's Mark 48 LR
00:41:00 = Dille dropped a noisemaker
00:42:12 = Han SSN dropped a noisemaker
00:44:14 = Han SSN dropped a noisemaker
00:46:50 = Dille fired a Mark 48 HS at Han SSN
00:48:12 = Han SSN was hit by Dille's Mark 48 HS
00:48:30 = Han SSN dropped a noisemaker
00:48:32 = Han SSN was destroyed by Dille
00:49:54 = Han SSN dropped a noisemaker
00:52:54 = Dille correctly identified Han SSN
00:54:00 = Dille fired a Mark 48 LR at Han SSN
00:54:04 = Dille fired a Mark 48 LR at Han SSN
00:55:10 = Han SSN fired a Type 53 LR at secondary waypoint
00:55:52 = Dille fired a Mark 48 HS at Han SSN
00:56:08 = Dille dropped a noisemaker
00:56:54 = Dille dropped a noisemaker
00:57:42 = Han SSN dropped a noisemaker
00:58:04 = Han SSN was hit by Dille's Mark 48 HS
00:59:50 = Dille fired a Mark 48 HS at Han SSN
01:00:16 = Han SSN was hit by Dille's Mark 48 LR
01:00:36 = Han SSN was destroyed by Dille
01:01:02 = Mark 48 HS was detonated by Dille
01:01:38 = Mark 48 LR was detonated by Dille
01:05:16 = Dille fired a Harpoon at Jianghu FFL
01:05:36 = Jianghu FFL was hit by Dille's Harpoon
01:05:56 = Jianghu FFL was destroyed by Dille
01:06:00 = logbook entry and status report:
mission successfully completed



Figure 8-25 Han submarines in this mission will use the merchants to mask their approach.



Figure 8-26 Southern Han is caught between a rock and a hard place.



Figure 8-27 The *Seawolf's* convoy continues to steam blindly into potentially deadly waters.

Debrief and Lessons Learned

The Chinese play the game fairly well, but not as well as we do. After sprinting out in advance of the convoy, we became suspicious of two groups of merchants approaching from the east. The Executive Officer thought the Hans might be using these groups to mask their own sound signatures and, as you know, he was correct in that supposition.

At this stage, we determined that the best defense would be a good offense, and we salvoed one Sea Lance at each of the contacts. While the Chinese boats went evasive, we increased speed to close the gap and come within weapons range. As soon as we arrived in that envelope, we kept both Hans dancing by augmenting the Sea Lance shots with fresh Mk 48s.

Unfortunately, the simultaneous engagement of the two Hans took longer to conclude than we had anticipated. Therefore, before it was over, our convoy had also closed to within weapons range and the first Jianghu FFL had to be finished with a quick-reaction missile shot as well.

This posed the dual problem of keeping the Hans occupied while maintaining positive control of our own torpedoes to avoid inadvertently hitting friendly shipping. Fortunately, we got it all together and finished the subs shortly thereafter.

We realized that if our original assumptions about the Chinese battle plan were correct, the time we had lost finishing the Hans was probably enough to bring the second Jianghu within range as

well. That meant time was of the essence. We quickly came to periscope depth and picked her up, already in the process of preparing to launch missiles.

A quick missile salvo of our own sent her to a watery grave and a sigh of relief was had by all, particularly the civilians on those transports who were undoubtedly leaving skid marks in their skivvies once the first rounds started going off.



Figure 8-28 The Dance of Death finally draws to a conclusion.



Figure 8-29 Jianghu FFLs will approach from the east and fire as soon as they come within range of the convoy. The *Seawolf* cannot allow this to happen.

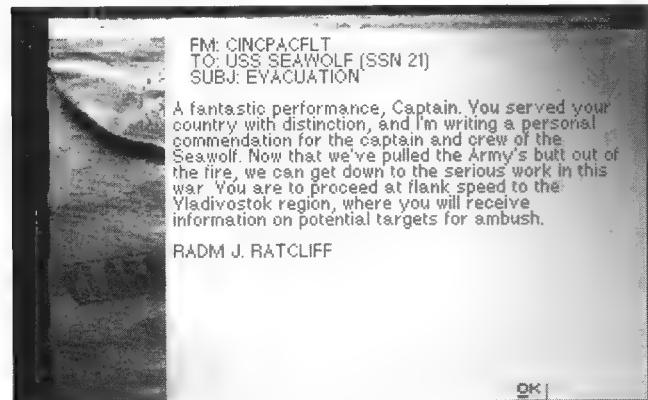


Figure 8-30 Luckily, no consoling letters of sympathy had to be written after this mission.





Seven Days in Hell

JCS THREAT BRIEFING



In the last 24 hours, I've become convinced that we are winning this war. The source of that conclusion has to do with a marked increase in Soviet activity. It appears that they are pulling out all the stops and committing their best assets to the conflict on all fronts. They undoubtedly want us to view this as a resurgence of strength, but I see it for what it really is—the last gasp of a dying nation.

Our task is clear. We must meet the Soviets head-on and roll them back to the motherland. It will not be easy. They do have considerable firepower left, but when this part is over, it will all be over. Unfortunately, we cannot hope to conclude this war without further losses, but I charge each and every one of you to keep those losses to a minimum in the days ahead.



MISSION TWENTY-SEVEN: VLADIVOSTOK PATROL

Situation Report

The *Seawolf* is ordered to harass all ships entering and leaving the besieged port of Vladivostok. CINCPACFLT hopes that severing the port's lines of supply will give the Chinese just enough of an advantage to achieve a decisive victory on land. This would eliminate the home base of SOVPACFLT and greatly simplify U.S. consolidation of the Pacific theater.

Intelligence Report

As of 130735 Zulu, satellite imagery of Vladivostok and the operating area outside Peter the Great Bay revealed the Soviet Order of Battle (OOB) to be as follows:

- 1 Kresta class CG
- 1 Krivak class FFG
- 1 Mirka class FFL
- 2 Sovremenny class DD
- 1 Kirov class CGH
- 2 Alfa class SSN
- 1 KA-25 Hormone helicopter
- 1 Sayany salvage and rescue ship
- 1 Alligator class LST

Initially, these units will not suspect the *Seawolf*'s presence in the area. Once alerted, however, they will be more cautious. As such, maximize destruction in the first engagement for best results. Stay alert for the Alfas at all times.

Synopsis of Orders

Subject Vladivostok to an old-fashioned naval blockade. Don't let anything move in or out of that port until all of your weapon inventory is expended and you are forced to withdraw.

Rules of Engagement

Warning Red, Weapons Free. Engage all targets at will.

Executive Officer's Comments

This is the mission we've all talked about—taking it to Ivan in his own backyard. The Surface force should be a piece of cake, but you can bet that they will have at least one of those Alfas playing guard dog at the mouth of the bay. Those guys are the only ones we need to be really careful about.

The Captain's Log

Mission time: 03:00:00

Ships destroyed: 8

Subs destroyed: 1

Torpedoes used: 31

Torpedoes hit: 17

Torpedoes evaded: 0

Torpedoes hit us: 1

Noisemakers used: 2

Active sonar: 0

Ident. right/wrong: 0/0

00:30:00 = Dille fired a Mark 48 HS at Sayany Salvage/Rescue

00:30:06 = Dille fired a Mark 48 HS at Sayany Salvage/Rescue

00:30:18 = Dille fired a Mark 48 HS at Alligator 3 LST

00:30:30 = Dille fired a Mark 48 HS at Alligator 3 LST

00:30:52 = Dille fired a Mark 48 WH at Kresta II CG

00:30:56 = Dille fired a Mark 48 WH at Kresta II CG

00:31:26 = Alligator 3 LST was hit by Dille's Mark 48 HS

00:31:34 = Sayany Salvage/Rescue was hit by Dille's Mark 48 HS

00:31:38 = Sayany Salvage/Rescue was hit by Dille's Mark 48 HS

00:31:38 = Alligator 3 LST was hit by Dille's Mark 48 HS

00:31:40 = Sayany Salvage/Rescue was destroyed by Dille

00:31:40 = Alligator 3 LST was destroyed by Dille

00:32:36 = Dille fired a Mark 48 WH at Mirka II FFL

00:33:06 = Dille fired a Mark 48 WH at Krivak II FFG

00:33:30 = Dille fired a Mark 48 WH at Sovremenny DD

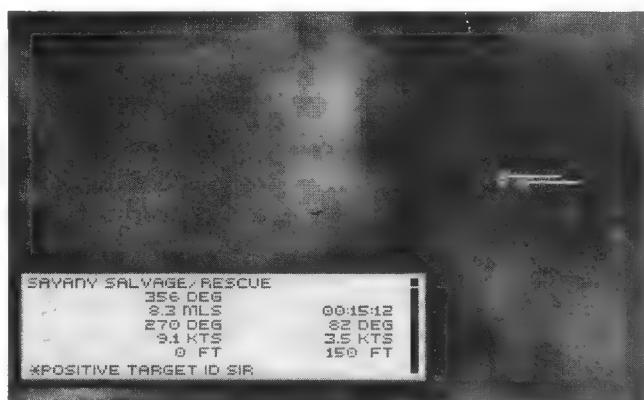
00:33:34 = Dille fired a Mark 48 WH at Sovremenny DD
00:33:42 = Mark 48 WH was hit by Mine
00:37:54 = Sovremenny DD was hit by Dille's Mark 48 WH
00:37:54 = Sovremenny DD was hit by Dille's Mark 48 WH
00:37:56 = Sovremenny DD was destroyed by Dille
00:38:06 = Kresta II CG dropped a noisemaker
00:40:14 = Krivak II FFG dropped a noisemaker
00:40:20 = Kresta II CG was hit by Dille's Mark 48 WH
00:42:10 = Kresta II CG was hit by Dille's Mark 48 WH
00:42:12 = Kresta II CG was destroyed by Dille
00:46:38 = Dille fired a Mark 48 HS at Krivak II FFG
00:47:50 = Dille fired a Mark 48 WH at Mirka II FFL
00:49:08 = Dille fired a Mark 48 WH at Sovremenny DD
00:50:58 = Mirka II FFL dropped a noisemaker
00:53:50 = Dille fired a Mark 48 WH at Krivak II FFG
00:54:22 = Dille fired a Mark 48 HS at Mirka II FFL
00:54:28 = Sovremenny DD was hit by Dille's Mark 48 WH
00:55:06 = Kirov CGH fired a SS-N-14 Missile at Dille
00:55:36 = Dille dropped a noisemaker
00:55:48 = Mirka II FFL was hit by Dille's Mark 48 HS
00:56:08 = Mirka II FFL was destroyed by Dille
00:58:24 = Dille dropped a noisemaker
00:58:24 = Dille was hit by Kirov CGH's SS-N-14 Missile
00:58:38 = damage control report: hydraulic leak in weapons room
01:35:04 = Dille fired a Mark 48 HS at Kirov CGH
01:35:08 = Dille fired a Mark 48 HS at Kirov CGH
01:35:12 = Dille fired a Mark 48 LR at Kirov CGH
01:35:16 = Dille fired a Mark 48 LR at Kirov CGH
01:36:26 = Kirov CGH was hit by Dille's Mark 48 HS
01:36:32 = Kirov CGH was hit by Dille's Mark 48 HS
01:36:56 = Kirov CGH was hit by Dille's Mark 48 LR
01:36:56 = Kirov CGH was hit by Dille's Mark 48 LR
01:36:58 = Kirov CGH was destroyed by Dille
01:46:02 = Dille fired a Mark 48 HS at Alfa SSN
01:46:06 = Dille fired a Mark 48 HS at Alfa SSN
01:46:10 = Dille fired a Mark 48 LR at Alfa SSN

01:47:04 = Alfa SSN dropped a noisemaker
01:49:02 = Dille fired a Mark 48 HS at Alfa SSN
01:51:12 = Alfa SSN dropped a noisemaker
01:53:24 = Dille fired a Mark 48 HS at Alfa SSN
01:53:28 = Dille fired a Mark 48 HS at Alfa SSN
01:55:54 = Alfa SSN was hit by Dille's Mark 48 HS
01:57:00 = Alfa SSN dropped a noisemaker
01:57:44 = Dille fired a Mark 48 HS at Alfa SSN
02:00:32 = Dille fired a Mark 48 HS at Alfa SSN
02:02:32 = Dille fired a Sea Lance at Alfa SSN
02:02:34 = Dille fired a Mark 48 LR at Alfa SSN
02:03:16 = Alfa SSN dropped a noisemaker
02:05:10 = Dille fired a Sea Lance at Alfa SSN
02:05:56 = Alfa SSN was hit by Dille's Sea Lance
02:06:16 = Alfa SSN was destroyed by Dille
02:07:02 = Mark 48 LR was detonated by Dille
02:11:54 = Dille fired a Mark 48 LR at Sovremenny DD
02:15:52 = Sovremenny DD was hit by Dille's Mark 48 LR
02:15:54 = Sovremenny DD was destroyed by Dille
02:42:22 = Dille fired a Harpoon at Krivak II FFG
02:42:42 = Krivak II FFG was hit by Dille's Harpoon
02:43:02 = Krivak II FFG was destroyed by Dille
03:00:00 = logbook entry and status report:
mission objectives partially completed.

Figure 9-1 Ivan's welcoming committee in their initial positions.

Debrief and Lessons Learned

The mission came off with little difficulty, except that we never did succeed in locating the second Alfa SSN, which was reported by Intelligence to be in the vicinity. After assessing the initial situation, we determined that a slow, methodical approach to the main surface group would be the best course of action. The *Seawolf* initiated a series of rapid salvos between times 00:30 and 00:33 that broke up the



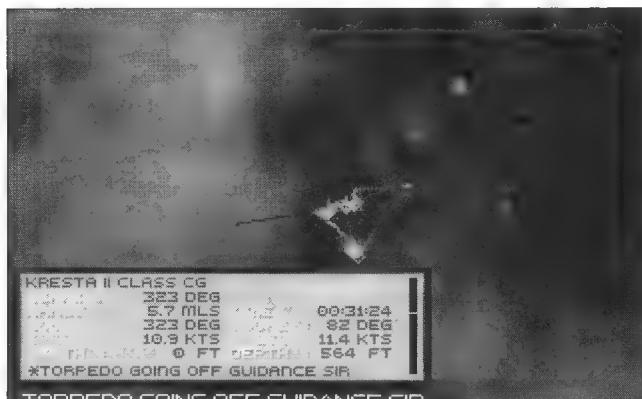


Figure 9-2 Going after the lead Kresta.

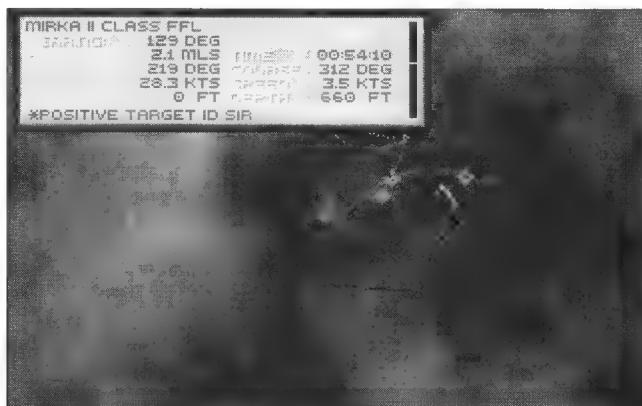


Figure 9-3 Time 00:54, multiple engagements in progress.



Figure 9-4 Kirov approaches from the south and makes standoff attacks based on targeting data held by local units.

Soviet formation and registered kills all the way until time 00:42, concluding with the Kresta CG.

I would like to draw your attention to the log entry for time 00:33:42, when one of our torpedoes apparently triggered a Soviet mine and was destroyed. There but for the grace of God goes the *Seawolf*, boys, and all of us with her! We have been warned about the presence of mines in the past, but this was our first actual encounter. Luckily, it was not up close and personal. Unfortunately, the only hope we have of avoiding these mines, other than pure luck, is to use active sonar, and that certainly isn't an acceptable solution in the midst of hostile waters.

Between times 00:46 and 00:49, the *Seawolf* initiated Phase Two of the attack, spreading a salvo between a Sovremenny, a Mirka, and a Krivak. The first two succumbed to the pressure, though they did give the Mk 48s a run for their money. We lost track of the Krivak shortly thereafter when an SSN-14 dropped into the water close aboard. The culprit turned out to be the Kirov, inbound to the port from the south and making her first appearance a rather startling one.

The *Seawolf* began an initial approach on the Kirov by dropping below the layer and coming to one-quarter power. While still en route to the anticipated weapons release point, we also began tracking one of the Alfas. She was out of position to complicate this ASUW run, but we knew

that we would have to turn east and deal with her as soon as the Kirov was sunk.

Because the Kirov was known to be a hard target, a four-torpedo salvo was prepared for her. The *Seawolf* attempted to maintain contact on the Alfa throughout the prosecution, but was unable to do so. After the torpedoes were enroute to Kirov, the *Seawolf* maneuvered to regain the Alfa and was successful shortly thereafter. A very meticulous approach was conducted by the Executive Officer, but even though we adhered to our proven strategies against the Alfa, she managed to elude the kill.

After multiple maneuvers and considerable expenditure of ordnance, the *Seawolf* finally succeeded in finishing the Alfa. Subsequently, another Sovremenny and the elusive Krivak were dealt with—one with torpedoes, the other with missiles. The second Alfa failed to make an appearance. All in all, a successful outing.

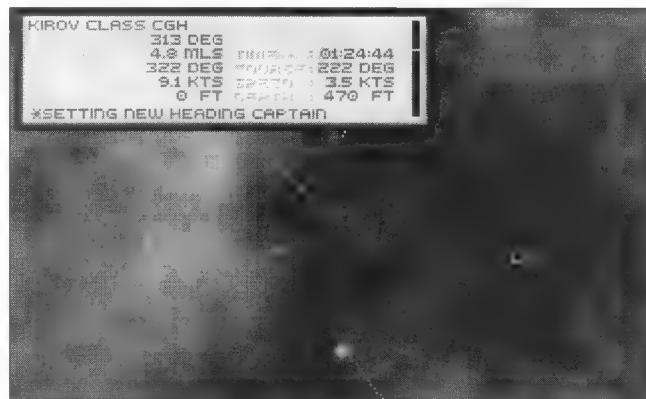


Figure 9-5 The Alfa is detected, but not yet classified. The *Seawolf* will complete the ASUW attack on Kirov then maneuver into position for the Alfa.



Figure 9-6 Sending Kirov to the bottom.



Figure 9-7 Coming back for the Alfa.

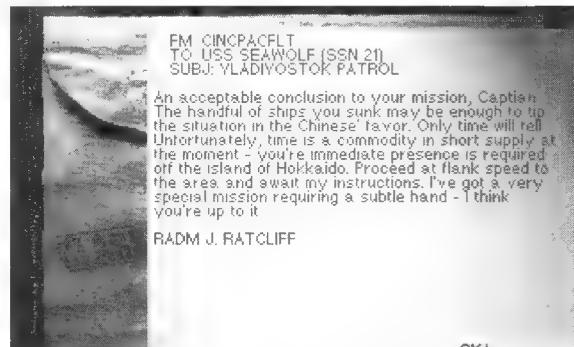


Figure 9-8 Parting shots from the Admiral.



MISSION TWENTY-EIGHT: KURIL INVASION

Situation Report

Japan has decided to take advantage of the Russians' current woes and reclaim the long-disputed Kuril Island chain by force. Undoubtedly, Japan is counting on Soviet attention to be elsewhere, because the invasion force it has mounted is relatively small. Japan has requested, and has been granted, escort assistance for its troop transports during the crossing. Although many members of the NSC view the Japanese move as wanton opportunism, the Commander in Chief has taken the position that any attack on the Soviet confederacy serves to hasten the end of this war. Therefore, the *Seawolf* has been ordered to protect the Japanese force during transit of the Tsugaru Strait.

Intelligence Report

Most SOVPACFLT units are out of position to counter the Japanese initiative, but those few that are available are quite capable of getting the job done. A coded transmission from Vladivostok to Petropavlosk confirms that a Slava CG and a Sovremenny DD will be joining the Alfa and the Akula already on station to intercept the Japanese convoy. The latter are suspected to be in tight patrol patterns close to the convoy's transit route. This may indicate that the Soviets have considerable signal intercept capability against the Japanese as well. In addition, two Soviet support ships, one Sayany and one Alligator, are transiting the Tsugaru Strait and may assist the warships with locating data on the Japanese force.

Synopsis of Orders

The *Seawolf* will escort the Japanese convoy to their debarkation point in the Kuril Islands. Actively investigate all contacts of interest and prosecute those determined to be hostile. The Japanese have allotted only a minimum force to accomplish their objective. As such, they will have to abort if the convoy is allowed to sustain any losses.

Rules of Engagement:

Warning Red, Weapons Tight. Verify all contacts as hostile before prosecution.

Executive Officer's Comments

Dealing with an Alfa and an Akula at the same time won't be easy Captain. We are all going to have to be on our toes out there. Based on the intelligence report, we will probably run into those guys before the surface threat gets there, so I think we need to rig for quiet ship and go to maximum ASW mode as soon as we get on station.

I would prefer to engage the two subs separately, but they may not afford us that luxury. If that turns out to be the case, I think we need to get off the first shots against each of them and always keep weapons in the water until we can corner them for the kill. As long as they are worried about taking one up the stern tube, they won't have time to make our lives miserable. Once those guys are out of the way, it's just a matter of going topside and clearing the decks of the skimmers. We've certainly had plenty of practice at that by now.

The Captain's Log

Mission time: 01:02:30

Ships destroyed: 2

Subs destroyed: 2

Torpedoes used: 18

Torpedoes hit: 5

Torpedoes evaded: 3

Torpedoes hit us: 2

Noisemakers used: 4

Active sonar: 0

Ident. right/wrong: 2/0

00:05:40 = Dille fired a Mark 48 LR at Alfa SSN

00:05:42 = Dille fired a Mark 48 LR at Alfa SSN

00:06:36 = Dille correctly identified Akula SSN

00:07:10 = Alfa SSN dropped a noisemaker

00:07:28 = Dille fired a Mark 48 LR at Akula SSN
00:07:32 = Dille fired a Mark 48 LR at Akula SSN
00:09:20 = Alfa SSN fired a Type 53 LR at secondary waypoint
00:09:34 = Akula SSN fired a Type 53 LR at secondary waypoint
00:09:50 = Dille fired a Harpoon at Sovremenny DD
00:10:10 = Sovremenny DD was hit by Dille's Harpoon
00:10:30 = Sovremenny DD was destroyed by Dille
00:10:50 = Mark 48 LR was hit by Alfa SSN's Type 53 LR
00:11:10 = Dille fired a Sea Lance at Alfa SSN
00:11:54 = Alfa SSN dropped a noisemaker
00:13:42 = Dille fired a Mark 48 HS at Alfa SSN
00:13:58 = Dille fired a Mark 48 HS at Akula SSN
00:14:32 = Akula SSN dropped a noisemaker
00:15:50 = Dille fired a Mark 48 HS at Alfa SSN
00:16:40 = Alfa SSN was hit by Dille's Mark 48 HS
00:16:40 = Alfa SSN was hit by Dille's Mark 48 LR
00:17:00 = Alfa SSN was hit by Dille's Mark 48 HS
00:17:00 = Dille fired a Mark 48 LR at Akula SSN
00:17:02 = Alfa SSN was destroyed by Dille
00:18:52 = Dille fired a Mark 48 HS at Akula SSN
00:19:34 = Akula SSN was hit by Dille's Mark 48 LR
00:20:42 = Akula SSN dropped a noisemaker
00:21:40 = Dille fired a Mark 48 HS at Akula SSN
00:21:58 = Dille fired a Mark 48 HS at Akula SSN
00:24:14 = Dille fired a Mark 48 LR at Akula SSN
00:24:22 = Dille fired a Mark 48 LR at Akula SSN
00:24:50 = Akula SSN dropped a noisemaker
00:27:02 = Akula SSN fired a Type 53 LR at secondary waypoint
00:27:10 = Dille fired a Mark 48 LR at Akula SSN
00:27:40 = Dille fired a Mark 48 HS at Akula SSN
00:29:12 = Dille fired a Mark 48 LR at Akula SSN
00:29:32 = Akula SSN dropped a noisemaker
00:33:38 = Dille fired a Mark 48 LR at Akula SSN
00:34:58 = Akula SSN dropped a noisemaker
00:37:42 = Akula SSN was hit by Dille's Mark 48 LR
00:38:02 = Akula SSN was destroyed by Dille

00:38:46 = Dille dropped a noisemaker
00:41:04 = Dille dropped a noisemaker
00:51:28 = Kamov KA-25 Hormone Heli fired a Type 45 Light at Dille
00:51:32 = Kamov KA-25 Hormone Heli fired a Type 45 Light at Dille
00:52:18 = Dille dropped a noisemaker
00:59:24 = Kamov KA-25 Hormone Heli fired a Type 45 Light at Dille
00:59:28 = Kamov KA-25 Hormone Heli fired a Type 45 Light at Dille
00:59:50 = Slava CG fired a SS-N-14 Missile at Dille
01:00:04 = Dille was hit by Kamov KA-25 Hormone Heli's
 Type 45 Light
01:00:06 = Dille was hit by Kamov KA-25 Hormone Heli's
 Type 45 Light
01:01:08 = Dille correctly identified Slava CG
01:01:14 = damage control report: fire in torpedo room
01:01:22 = Dille fired a Tomahawk at Slava CG
01:01:30 = Dille dropped a noisemaker
01:01:42 = Slava CG was hit by Dille's Tomahawk
01:02:02 = Slava CG was destroyed by Dille
01:02:30 = logbook entry and status report:
 mission successfully completed

Debrief and Lessons Learned

It became apparent shortly after initial contact that separate engagements of the Alfa and the Akula would not be possible. Consequently, we adhered to the Executive Officer's recommendations and kept the two of them busy all the time.

Unfortunately, by the time the Alfa was taken out of the picture, the convoy had continued to steam blindly into danger. This mandated even more pressure on the Akula, which could have taken a killing snap shot at the convoy at any time.

Continued pressure finally put this bandit to rest. Meanwhile, the Slava had been creeping in from the East. The

Figure 9-9 The positions of ambush are revealed.





Figure 9-10 Three's a crowd. Taking on the Alfa and Akula simultaneously can get very hectic.

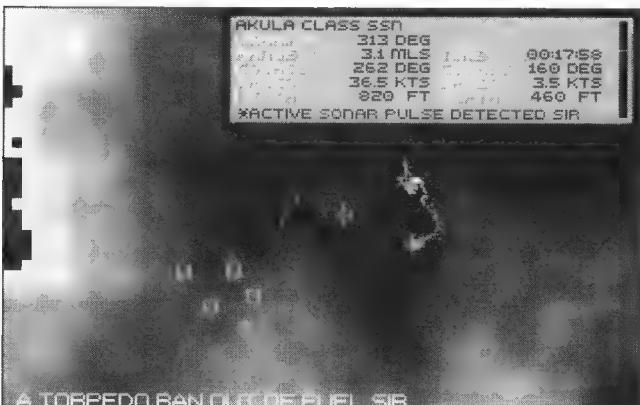


Figure 9-11 Alfa's down, but the Akula is more deadly than ever.

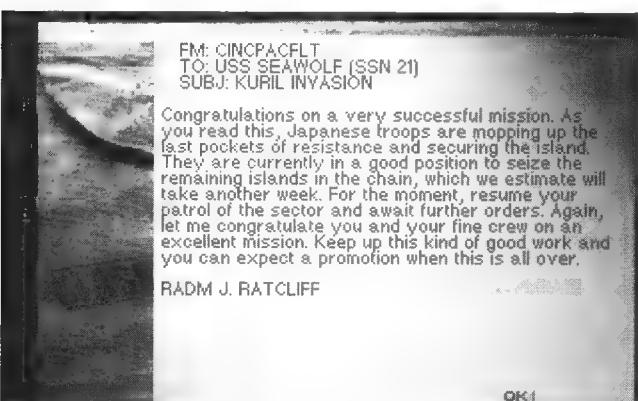


Figure 9-12 Another happy ending.

Seawolf came to attack depth, localized her position, and finished the mission with a Tomahawk.

Hints

The two submarines are running tight patrol patterns in the direct path of your convoy. In other words, you are going to have to destroy those subs or they will destroy your convoy. You should see the Alfa first, then the Akula. Those guys are tough. Engage them early and get them thinking about the *Seawolf* instead of the convoy. The Sovremenny that appears to the east will not fire at the convoy. It is looking for the *Seawolf*, however, and if it switches on its active sonar and finds you, things will get ugly very fast: two KA-25 helicopters move in, the SSNs may fire SSN-15 missiles, the Slava and the Sovremenny may fire SSN-14 missiles, and it just turns into one hell of a day all the way around.

A good initial strategy is to missile the Sovremenny just as soon as you identify him. Don't worry about the Slava initially, because he begins way off the visible map. This gives you time to take out the SSNs and Sovremenny, then come up and look for the Slava. If you wait until he is within 8 to 12 miles of the convoy, he will take them all out before you can kill him. As such, as soon as the other units are disposed of, come to attack depth and search for the Slava approaching from the east, then Tomahawk him.



MISSION TWENTY-NINE: SAKHALIN SURPRISE

Situation Report

Buoyed by their success in quickly overwhelming the Kuril Islands, the Japanese government has decided to continue their offensive and invade Sakhalin Island. The U.S. government has counseled them against this action, but Japan has stubbornly insisted on continuing with their plans. The U.S. supported the Kuril invasion but will not condone this attack. As such, the *Seawolf* has been ordered into the area to interdict and destroy the Japanese convoy.

Intelligence Report

The Japanese convoy consists of the following ships:

- 2 Alligator class LST
- 2 cargo ships
- 2 Takatsuki class DD
- 2 Haruna class DD
- 4 miscellaneous merchant ships (hostages/decoys)

One or more Alfa Class submarines may also be lurking in the area to pounce on the Japanese convoy. They will not be looking for the *Seawolf*, but they will certainly pose a problem if you are discovered.

Synopsis of Orders

Sink the Japanese convoy and go home.

Rules of Engagement

Warning Yellow, Weapons Tight. Hostile action from the convoy is not anticipated until the *Seawolf* initiates the engagement. The presence of friendly merchants in close proximity to the convoy dictates that the *Seawolf* must positively identify all contacts as hostile prior to engagement, and should also maintain positive control of all weapons.

Executive Officer's Comments

Sounds fairly straight-up to me, Captain. We just want to keep a weather eye out for those Soviet boats to avoid any surprises.

The Captain's Log

Mission time: 00:49:00

Ships destroyed: 8

Subs destroyed: 2

Torpedoes used: 18

Torpedoes hit: 12

Torpedoes evaded: 0

Torpedoes hit us: 0

Noisemakers used: 0

Active sonar: 0

Ident. right/wrong: 0/0

00:06:06 = Dille fired a Mark 48 HS at Alfa SSN

00:06:10 = Dille fired a Mark 48 HS at Alfa SSN

00:06:12 = Dille fired a Mark 48 HS at Alfa SSN

00:06:16 = Dille fired a Mark 48 LR at Alfa SSN

00:06:46 = Alfa SSN was hit by Dille's Mark 48 HS

00:06:48 = Alfa SSN was hit by Dille's Mark 48 HS

00:06:52 = Alfa SSN was hit by Dille's Mark 48 HS

00:06:54 = Alfa SSN was destroyed by Dille

00:07:30 = Mark 48 LR was detonated by Dille

00:16:02 = Dille fired a Mark 48 HS at Alfa SSN

00:16:08 = Dille fired a Mark 48 HS at Alfa SSN

00:16:10 = Dille fired a Mark 48 HS at Alfa SSN

00:16:14 = Dille fired a Mark 48 LR at Alfa SSN

00:16:42 = Alfa SSN was hit by Dille's Mark 48 HS

00:16:46 = Alfa SSN was hit by Dille's Mark 48 HS

00:16:48 = Alfa SSN was hit by Dille's Mark 48 HS

00:16:50 = Alfa SSN was destroyed by Dille

00:17:16 = Mark 48 LR was detonated by Dille

00:26:54 = Dille fired a Mark 48 HS at Haruna DD

00:27:00 = Dille fired a Mark 48 HS at Haruna DD
00:28:22 = Haruna DD was hit by Dille's Mark 48 HS
00:28:30 = Haruna DD was hit by Dille's Mark 48 HS
00:28:32 = Haruna DD was destroyed by Dille
00:28:42 = Dille fired a Mark 48 WH at Alligator 3 LST
00:30:28 = Alligator 3 LST was hit by Dille's Mark 48 WH
00:30:48 = Alligator 3 LST was destroyed by Dille
00:31:54 = Dille fired a Mark 48 HS at Cargo Ship
00:32:48 = Cargo Ship was hit by Dille's Mark 48 HS
00:33:08 = Cargo Ship was destroyed by Dille
00:33:40 = Dille fired a Mark 48 LR at Takatsuki DD
00:34:12 = Dille fired a Mark 48 HS at Cargo Ship
00:35:16 = Cargo Ship was hit by Dille's Mark 48 HS
00:35:36 = Cargo Ship was destroyed by Dille
00:36:06 = Mark 48 LR was detonated by Dille
00:37:00 = Dille fired a Mark 48 HS at Alligator 3 LST
00:37:52 = Alligator 3 LST was hit by Dille's Mark 48 HS
00:38:12 = Alligator 3 LST was destroyed by Dille
00:38:34 = Dille fired a Mark 48 HS at Takatsuki DD
00:39:06 = Takatsuki DD dropped a noisemaker
00:41:12 = Takatsuki DD dropped a noisemaker
00:43:06 = Dille fired a Mark 48 WH at Takatsuki DD
00:43:36 = Dille fired a Mark 48 WH at Takatsuki DD
00:47:20 = Dille fired a Harpoon at Haruna DD
00:47:40 = Haruna DD was hit by Dille's Harpoon
00:47:40 = Dille fired a Tomahawk at Takatsuki DD
00:48:00 = Haruna DD was destroyed by Dille
00:48:00 = Takatsuki DD was hit by Dille's Tomahawk
00:48:16 = Dille fired a Harpoon at Takatsuki DD
00:48:20 = Takatsuki DD was destroyed by Dille
00:48:36 = Takatsuki DD was hit by Dille's Harpoon
00:48:56 = Takatsuki DD was destroyed by Dille
00:49:00 = logbook entry and status report:
mission successfully completed



Figure 9-13 The Alfa starts the mission 4 miles to the west, closing on a constant bearing, decreasing range. Stay put to deal with him. Convoy of interest approaching from the south.

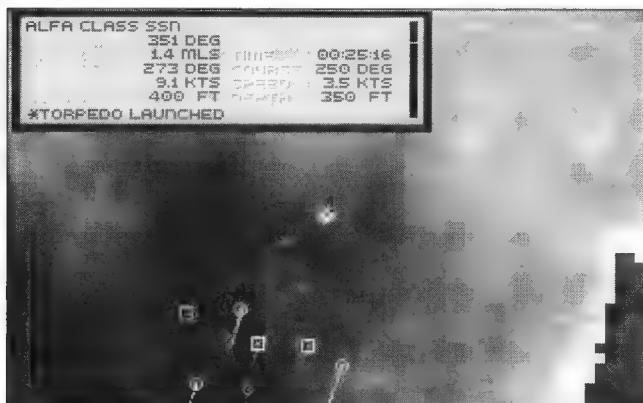


Figure 9-14 Second Alfa will be just forward of the convoy. He must be eliminated before commencing ASUW runs.

Debrief and Lessons Learned

This mission went straight by the numbers, despite of the presence of two Alfa SSNs. When we began tracking the targets of interest, the BSY-2 sonar operator noticed intermittent 50-Hz lines directly to the West. These turned out to be the first Alfa.

The closure rate of the targets of interest dictated a quick kill on the first Alpha. The ambush tactic accomplished this with minimal difficulty. Subsequently, we returned our attentions to the convoy. As they continued to bear down on our position, the *Seawolf* gained contact on the second Alfa.

With the only real threats disposed of, the remainder of the mission was a snap. The only thing we had to do was ensure that none of our torpedoes inadvertently took out any of the merchants. As such, the initial surface salvo was designed to break up the bad guys and get them running away from the friendlies, which made subsequent attacks easier.

The Takatsuki and the Haruna turned out to be highly maneuverable platforms. Rather than allow them to get to shallow water, where the wake homers might get confused in choppy waters, the decision was made to finish the final combatants with missile shots.

There are specific after-action lessons to be learned. I was particularly pleased in the precise placement of weapons. Several merchant mariners would thank you for that extra effort if they had the chance. The big boss was pleased as well.

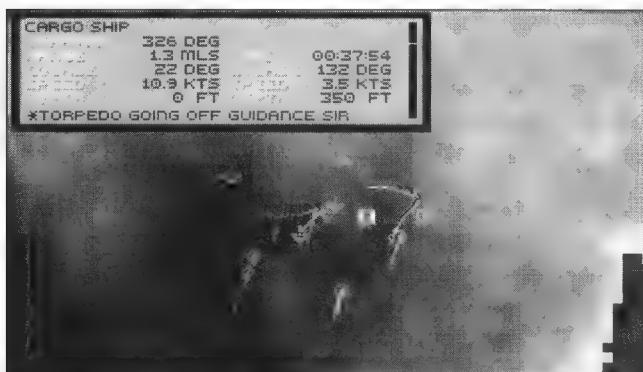


Figure 9-15 Place your shots to move the bad guys away from the friendlies.

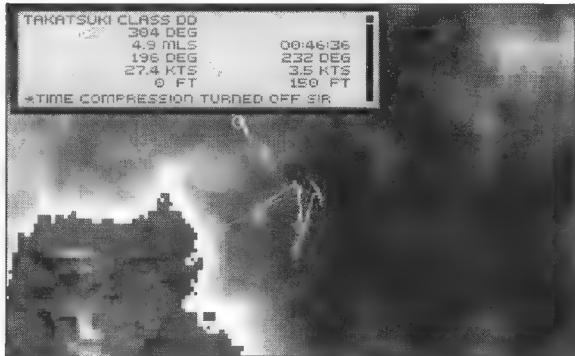


Figure 9-16 The Japanese Warships are quick to evade.

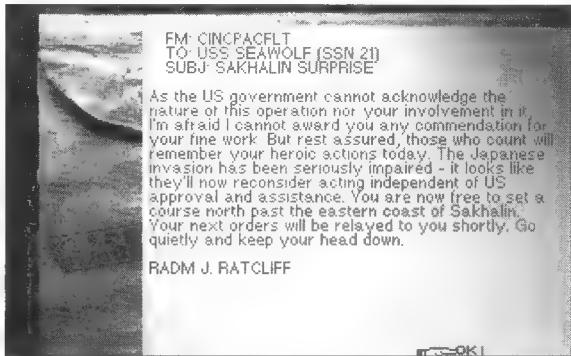


Figure 9-17 A few more choice words from on high.

Hints

There isn't much to worry about in this mission. If you're not careful, those Alfa SSNs can sneak up on you and make this a very short mission. Other than that, the only major concern is to avoid hitting the non-hostile shipping.

MISSION THIRTY: BOOMER HUNT

Situation Report

Intelligence indicates that a group of Soviet ballistic missile submarines is currently headed for the deep waters of the Pacific. The boomers, previously holed up in their armored pens at Petropavlovsk, quietly left port two days ago. They are nearing the boundaries of installed surveillance systems and must be destroyed before they reach open waters. The *Seawolf* has been detailed to deep-six the boomers.

Intelligence Report

This will be a difficult mission. Each of the three Delta SSBNs that the *Seawolf* must destroy has its own dedicated linebacker. The exact pairings are not known, but there are two Akulas and one Alfa escorting the boomers. This intelligence is completely reliable, because it was gained

from an Ohio class SSBN on her forward patrol station, and further validated by her linebacker, a Sturgeon class SSN. These units were specifically ordered not to mix it up with the Soviet groups, because we could not afford to lose the on-station Ohio under any circumstances.

Synopsis of Orders

Detect, localize, track, and engage the Soviet SSBNs. These are the primary target, so their destruction will constitute a successful mission. If, however, the opportunity presents itself to eliminate one or more of the escorts at the same time, you are authorized to do so at your own discretion.

Rules of Engagement

Warning Red, Weapons Tight. Friendly submarines and neutral surface shipping are known to be in the area. Positively identify all contacts prior to engagement.

Executive Officer's Comments

This could be a very difficult mission to pull off without getting hurt. Any of the Deltas could put a killing whack on us if they picked up our approach, not to mention the three first-rate attack boats that are tagging along with them. The odds are really stacked up against us on this one.

I think we have to keep eyes in the backs of our heads and clear baffles frequently. Also, once we are on to one of the boomers, we are not going to be able to give him a chance to go evasive. We need to maneuver into his baffles and send our shots straight up the stern tube. The first sound they need to hear is their own eardrums rupturing. If we do it any other way, we don't stand a chance of pulling this off.

The Captain's Log

Mission time: 03:00:00

Ships destroyed: 0

Subs destroyed: 5

Torpedoes used: 24

Torpedoes hit: 12

Torpedoes evaded: 0

Torpedoes hit us: 1

Noisemakers used: 2

Active sonar: 0

Ident. right/wrong: 1/0

00:09:32 = Akula SSN fired a Type 53 HS at Ohio SSBN

00:10:00 = Akula SSN fired a Type 53 HS at Ohio SSBN

00:10:20 = Ohio SSBN was hit by Akula SSN's Type 53 HS

00:12:20 = Akula SSN fired a Type 66 HS at Sturgeon SSN

00:12:40 = Akula SSN fired a Type 66 HS at Sturgeon SSN

00:13:48 = Akula SSN fired a Type 53 HS at Ohio SSBN

00:14:16 = Akula SSN fired a Type 53 HS at Ohio SSBN

00:15:20 = Ohio SSBN was hit by Akula SSN's Type 53 HS

00:15:36 = Ohio SSBN was hit by Akula SSN's Type 53 HS

00:15:38 = Ohio SSBN was destroyed by Akula SSN

00:15:56 = Sturgeon SSN was hit by Akula SSN's Type 66 HS

00:16:34 = Akula SSN fired a Type 66 HS at Sturgeon SSN

00:16:54 = Akula SSN fired a Type 66 HS at Sturgeon SSN

00:19:34 = Sturgeon SSN was hit by Akula SSN's Type 66 HS

00:19:54 = Sturgeon SSN was destroyed by Akula SSN

00:20:36 = Akula SSN fired a Type 66 HS at Merchant Ship Type 1

00:20:56 = Akula SSN fired a Type 66 HS at Merchant Ship Type 1

00:24:14 = Merchant Ship Type 1 was hit by Akula SSN's Type 66 HS

00:24:36 = Merchant Ship Type 1 was hit by Akula SSN's Type 66 HS

00:24:38 = Merchant Ship Type 1 was destroyed by Akula SSN

00:26:50 = Dille fired a Mark 48 LR at Delta IV SSBN

00:26:50 = Dille fired a Mark 48 LR at Delta IV SSBN

00:27:08 = Dille fired a Mark 48 LR at Delta II SSBN

00:27:12 = Dille fired a Mark 48 LR at Delta II SSBN

00:28:44 = Delta II SSBN dropped a noisemaker

00:29:28 = Dille fired a Mark 48 LR at Akula SSN

00:29:32 = Dille fired a Mark 48 LR at Akula SSN

00:29:46 = Delta II SSBN was hit by Dille's Mark 48 LR

00:30:40 = Delta IV SSBN dropped a noisemaker

00:30:44 = Dille fired a Mark 48 LR at Delta II SSBN

00:31:32 = Akula SSN dropped a noisemaker
00:35:22 = Delta IV SSBN dropped a noisemaker
00:35:28 = Delta IV SSBN was hit by Dille's Mark 48 LR
00:35:42 = Akula SSN dropped a noisemaker
00:35:46 = Delta II SSBN was hit by Dille's Mark 48 LR
00:36:06 = Delta II SSBN was destroyed by Dille
00:36:26 = Dille fired a Mark 48 LR at Delta IV SSBN
00:40:02 = Akula SSN was hit by Dille's Mark 48 LR
00:40:42 = Dille fired a Mark 48 LR at Delta IV SSBN
00:41:34 = Akula SSN dropped a noisemaker
00:41:46 = Delta IV SSBN was hit by Dille's Mark 48 LR
00:43:28 = Delta IV SSBN dropped a noisemaker
00:43:42 = Dille fired a Mark 48 LR at Akula SSN
00:46:00 = Dille fired a Mark 48 LR at Delta IV SSBN
00:47:02 = Delta IV SSBN was hit by Dille's Mark 48 LR
00:47:06 = Akula SSN fired a Type 53 LR at secondary waypoint
00:47:22 = Delta IV SSBN was destroyed by Dille
00:48:00 = Mark 48 LR was detonated by Dille
00:49:42 = Dille dropped a noisemaker
00:50:16 = Akula SSN dropped a noisemaker
00:52:40 = Akula SSN fired a Type 53 HS at Ohio SSBN
00:53:08 = Akula SSN fired a Type 53 HS at Ohio SSBN
00:53:24 = Alfa SSN fired a Type 66 HS at Merchant Ship Type 1
00:53:44 = Alfa SSN fired a Type 66 HS at Merchant Ship Type 1
00:54:26 = Ohio SSBN was hit by Akula SSN's Type 53 HS
00:54:32 = Ohio SSBN was hit by Akula SSN's Type 53 HS
00:54:52 = Ohio SSBN was destroyed by Akula SSN
00:56:02 = Merchant Ship Type 1 was hit by Alfa SSN's Type 66 HS
00:56:22 = Merchant Ship Type 1 was hit by Alfa SSN's Type 66 HS
00:56:24 = Merchant Ship Type 1 was destroyed by Alfa SSN
01:23:30 = Dille fired a Mark 48 HS at Alfa SSN
01:23:32 = Dille fired a Mark 48 HS at Alfa SSN
01:23:36 = Dille fired a Mark 48 HS at Alfa SSN
01:24:28 = Alfa SSN dropped a noisemaker
01:24:58 = Alfa SSN was hit by Dille's Mark 48 HS
01:25:48 = Dille fired a Mark 48 HS at Alfa SSN

01:27:06 = Dille fired a Mark 48 LR at Alfa SSN
01:27:26 = Dille fired a Mark 48 LR at Delta III SSBN
01:27:40 = Dille fired a Mark 48 LR at Delta III SSBN
01:30:22 = Delta III SSBN dropped a noisemaker
01:30:34 = Dille fired a Mark 48 LR at Delta III SSBN
01:32:00 = Alfa SSN dropped a noisemaker
01:33:20 = Dille fired a Mark 48 LR at Alfa SSN
01:34:14 = Delta III SSBN was hit by Dille's Mark 48 LR
01:34:16 = Delta III SSBN was hit by Dille's Mark 48 LR
01:34:36 = Delta III SSBN was destroyed by Dille
01:36:08 = Alfa SSN dropped a noisemaker
01:36:26 = Dille fired a Mark 48 LR at Alfa SSN
01:38:16 = Dille dropped a noisemaker
01:39:00 = Dille was hit by Dille's Mark 48 LR
01:39:14 = damage control report: electrical fire
01:40:20 = Dille fired a Mark 48 LR at Alfa SSN
01:41:36 = Alfa SSN dropped a noisemaker
01:42:18 = logbook entry and status report:
 Seawolf scraped bottom, damage taken
01:42:22 = damage control report: towed array damaged
01:42:24 = logbook entry and status report: the towed array was cut
01:44:06 = Alfa SSN was hit by Dille's Mark 48 LR
01:44:26 = Alfa SSN was destroyed by Dille
01:44:32 = Dille correctly identified Akula SSN
01:45:34 = Dille fired a Mark 48 HS at Akula SSN
01:45:38 = Dille fired a Mark 48 HS at Akula SSN
01:46:08 = Akula SSN was hit by Dille's Mark 48 HS
01:46:12 = Akula SSN was hit by Dille's Mark 48 HS
01:46:32 = Akula SSN was destroyed by Dille
03:00:00 = logbook entry and status report:
 mission successfully completed

Debrief and Lessons Learned

This will be remembered as the first mission in which the *Seawolf* expended her entire ASW Mk 48 weapons load and managed to steam

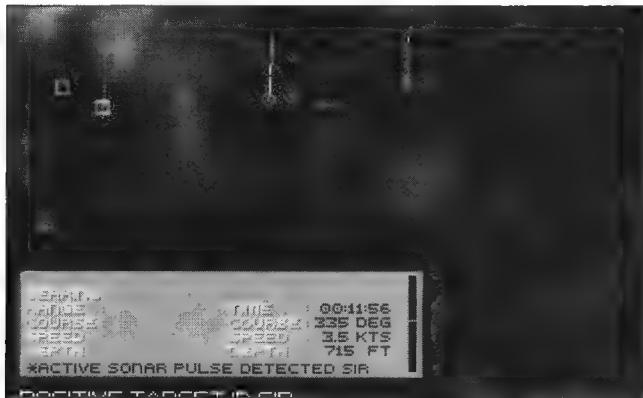


Figure 9-18 At problem start, the Akulas are pounding the other U.S. submarines. Unfortunately, the *Seawolf* is out of position to contribute to the fray and should not consider attempting to close at this stage of the game.

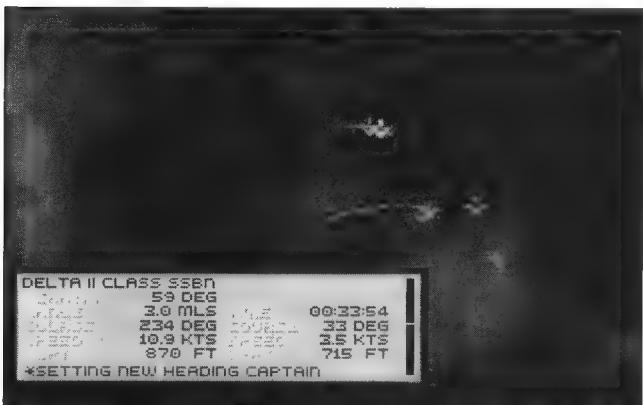


Figure 9-19 The *Seawolf* mixes it up with the eastern group.

the north about 6 to 8 miles during the evasion, but it was more important to go after that last boomer than to look for her.

The *Seawolf* acquired the Delta III shortly thereafter, but the situation was complicated by the presence of an Alfa between us and her. Rather than entering into a prolonged duel with the Alfa, during which the Delta III might slip away altogether, we used a quick snap shot to flush the Alfa and put her on the run. While she was occupied, we continued to close the Delta III's baffles and took her while she was napping.

As soon as the Delta III started to break up, we cleared our baffles to reacquire the Alfa. Since our primary objective was already complete, we could have slipped away at this point, but there was still time on the clock

away from it. For our efforts, we scored a 50 percent hit rate and five of six confirmed kills. Not bad against some of the best boats in the Soviet inventory. This is impressive, but not half as amazing as the incredible run of luck we had in pulling it off. Sometimes, boys, it's just your day.

We felt sorry for the boys up north, but we were never going to accomplish our mission by rushing headlong into a barroom brawl. Therefore, we continued a slow, methodical approach on the eastern group of contacts, which turned out to be a Delta II and a Delta IV, escorted by an Akula. A salvo of six torpedoes was prepared and allocated across the contacts, two per hull.

The results of this attack were one hit per hull and three submarines evasive. This kept us relatively safe from counterattack, but it grossly complicated coordination of the followup attack. We all agreed that the most important thing was to keep that Akula busy, so we continued to harass her while focusing most of our efforts on the two boomers. After they were dispatched, we didn't hear any more from the Akula. We knew she had run to

and fish in the tubes, so we decided to play a bit longer.

The Alfa proved to be a difficult adversary, and it soon became apparent that we were going to have to disengage before killing her. We were down to two Mk 48s on board, and those needed to be reserved for an emergency. Therefore, we dove down a layer and reduced speed to try to crawl away while the Alfa was at speed and blind, running from the shots we already had in the water. This was where our lucky streak really kicked in.

The Alfa made a bad turn to try to evade one of our shots and it got her, ending a lengthy engagement in our favor when she was scant seconds away from escaping altogether. In our obvious stupor over this fortunate turn of events, we blundered blindly into the rim of an undersea canyon, coming to a rather abrupt stop and losing our towed array. At first glance, this would seem to be bad luck, but while we were still cursing our stupidity, an Akula suddenly popped up less than a mile off our bow. He had most certainly been drawn there by the sounds of our battle with the Alfa.

Had we not run aground, chances are, she would have slipped right by us into our baffles and we would not have had this happy ending. As it was, this seemed like the emergency we had saved those two Mk 48s for, so we quickly loaded them and shot him in the face. Thank God the two were enough, because we were definitely operating without a net.

At this point, the *Seawolf* was essentially unarmed against a subsurface threat



Figure 9-20 Frequent SSBN/linebacker patrol tactic. Delta III turns to the south while Alfa guardian turns north to clear the Delta's baffles.



Figure 9-21 The key to getting the Delta III is to keep her linebacker evasive and occupied.



Figure 9-22 Alfa's final demise.

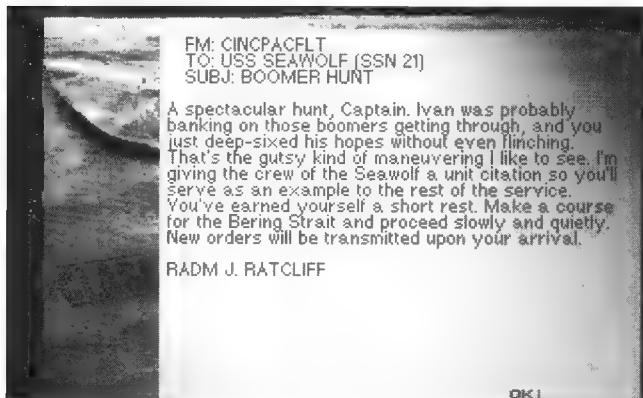


Figure 9-23
The *Seawolf* sees some light at the end of the long tunnel.

and we knew that there was a damaged Akula still out there to the North. It seemed best to remain right where we were for the time being, so we didn't even bother to get off the bottom until the mission time elapsed.

Hints

Although it is only necessary to destroy the three SSBNs to win this mission, the clock will not automatically stop once you

have achieved the objective. The mission will end when all six submarines have been destroyed or three hours have elapsed, whichever comes first. As such, if you want, you can take out the three SSBNs then go hide in a bottom canyon at "all stop" until the time limit is reached. Less fun than the alternative, but a satisfactory outcome if you are having difficulty getting past this mission.

MISSION THIRTY-ONE: INVASION ALASKA

Situation Report

Military Intelligence believes that the Soviets are contemplating a moderate amphibious raid on Alaska, presumably to destroy the Trans-Alaskan Pipeline and some of our Airborne Early Warning facilities on the North Slope. A Soviet task force has been observed transiting north through the Bering Strait. CINCPACFLT is concerned that this group may be part of the as yet unconfirmed invasion force. To preclude that possibility, *Seawolf* is being ordered into the area to eliminate the contacts of interest.

Intelligence Report

Commercial fishing vessels are currently within visual range of the Soviet task force. From descriptions they have provided, we have reason to believe that the composition of the hostile group is as follows:

- 6 cargo/tanker ships/Communist-flagged merchants
- 2 Sovremenny class DD
- 1 Krivak class FFG
- 1 Moskva class CGH
- 2 KA-25 Hormone helicopters

In addition, at least one periscope has been sighted. This confirms our suspicion that the Soviet group is being escorted by at least one, possibly two, fifth-generation Soviet attack boats, either Alfas or Akulas. Non-combatant merchant traffic in the area is light.

Synopsis of Orders

Engage and destroy the Soviet task force. Surface shipping is the primary objective, but remain alert for those Soviet submarines. If they are located, destroy them if at all possible.

Rules of Engagement

Warning Red, Weapons Tight. Though merchant traffic in the area is light, we want to ensure that no civilians are inadvertently harmed. Verify all targets as hostile before allocating ordnance.

Executive Officer's Comments

There is only one way to do this right and a thousand ways to do it wrong. If they detect us, we're screwed. If we let one of our torpedoes stray into one of the friendlies in the middle of their group, we're screwed. We've got to be constantly aware of threats from all corners: air, surface, and subsurface. It just doesn't get any worse than this.

We've got to look for those submarines first and see if we can eliminate them from the mix before we go any farther. After that, we'll go after the surface escorts, but we may have to wade through some merchants to get at them. The key is going to be matching ordnance to target type and making our shots count. We don't want to get down to the last few targets and be running around with our pockets empty, the way we did in that last mission. Our luck won't hold out forever.

The Captain's Log

Mission time: 02:18:00

Ships destroyed: 10

Subs destroyed: 1

Torpedoes used: 31

Torpedoes hit: 24

Torpedoes evaded: 0

Torpedoes hit us: 1

Noisemakers used: 1

Active sonar: 0

Ident. right/wrong: 1/0

00:44:06 = Dille correctly identified Akula SSN

00:45:02 = Dille fired a Mark 48 HS at Akula SSN

00:45:30 = Dille fired a Mark 48 HS at Akula SSN

00:45:32 = Dille fired a Mark 48 HS at Akula SSN

00:45:54 = Dille fired a Mark 48 HS at Sovremenny DD

00:45:58 = Dille fired a Mark 48 HS at Sovremenny DD

00:46:02 = Alfa SSN fired a Type 53 LR at secondary waypoint

00:46:30 = Alfa SSN fired a Type 53 LR at secondary waypoint

00:46:50 = Alfa SSN was hit by Dille's Mark 48 HS

00:47:00 = Akula SSN was hit by Dille's Mark 48 HS

00:47:20 = Akula SSN dropped a noisemaker

00:48:12 = Sovremenny DD was hit by Dille's Mark 48 HS

00:48:18 = Sovremenny DD was hit by Dille's Mark 48 HS

00:48:20 = Sovremenny DD was destroyed by Dille

00:49:42 = Dille fired a Mark 48 LR at Alfa SSN

00:49:48 = Dille fired a Mark 48 LR at Alfa SSN

00:50:20 = Alfa SSN dropped a noisemaker

00:50:44 = Dille fired a Mark 48 LR at Akula SSN

00:52:02 = Dille fired a Mark 48 HS at Alfa SSN

00:52:08 = Akula SSN fired a Type 53 LR at secondary waypoint

00:53:36 = Dille fired a Mark 48 WH at Oil Tanker

00:54:04 = Akula SSN dropped a noisemaker

00:54:24 = Dille dropped a noisemaker

00:54:40 = Alfa SSN dropped a noisemaker

00:55:14 = Alfa SSN was hit by Dille's Mark 48 LR

00:55:34 = Alfa SSN was destroyed by Dille
00:56:16 = Oil Tanker was hit by Dille's Mark 48 WH
00:57:52 = Dille fired a Mark 48 WH at Oil Tanker
00:59:04 = Dille was hit by Dille's Mark 48 LR
00:59:30 = damage control report: hydraulic leak in weapons room
00:59:48 = Dille fired a Mark 48 HS at Moskva CGH
00:59:50 = Dille fired a Mark 48 HS at Moskva CGH
00:59:50 = Dille fired a Mark 48 HS at Moskva CGH
01:00:00 = Dille fired a Mark 48 HS at Moskva CGH
01:00:04 = Oil Tanker was hit by Dille's Mark 48 WH
01:02:04 = Moskva CGH was hit by Dille's Mark 48 HS
01:02:06 = Moskva CGH was hit by Dille's Mark 48 HS
01:02:08 = Moskva CGH was hit by Dille's Mark 48 HS
01:02:10 = Moskva CGH was destroyed by Dille
01:02:16 = Dille fired a Mark 48 WH at Oil Tanker
01:02:24 = Oil Tanker was hit by Dille's Mark 48 HS
01:04:14 = Oil Tanker was hit by Dille's Mark 48 WH
01:04:16 = Oil Tanker was destroyed by Dille
01:08:10 = Dille fired a Mark 48 LR at Oil Tanker
01:08:12 = Dille fired a Mark 48 LR at Oil Tanker
01:11:22 = Akula SSN fired a Type 66 HS at Merchant Ship Type 1
01:11:42 = Akula SSN fired a Type 66 HS at Merchant Ship Type 1
01:12:18 = Dille fired a Mark 48 WH at Oil Tanker
01:13:50 = Merchant Ship Type 1 was hit by Akula SSN's Type 66 HS
01:14:08 = Oil Tanker was hit by Dille's Mark 48 LR
01:14:10 = Oil Tanker was hit by Dille's Mark 48 LR
01:14:10 = Oil Tanker was hit by Dille's Mark 48 WH
01:14:16 = Merchant Ship Type 1 was hit by Akula SSN's Type 66 HS
01:14:18 = Merchant Ship Type 1 was destroyed by Akula SSN
01:16:08 = Dille fired a Mark 48 WH at Oil Tanker
01:17:40 = Oil Tanker was hit by Dille's Mark 48 WH
01:17:42 = Oil Tanker was destroyed by Dille
01:25:22 = Dille fired a Mark 48 LR at Oil Tanker
01:29:20 = Oil Tanker was hit by Dille's Mark 48 LR
01:29:22 = Oil Tanker was destroyed by Dille
02:02:54 = Dille fired a Mark 48 LR at Krivak II FFG

02:03:44 = Dille fired a Mark 48 LR at Sovremenny DD
02:03:48 = Dille fired a Mark 48 LR at Sovremenny DD
02:04:26 = Dille fired a Mark 48 WH at Oil Tanker
02:05:18 = Dille fired a Mark 48 WH at Cargo Ship
02:05:36 = Dille fired a Mark 48 WH at Cargo Ship
02:06:00 = Krivak II FFG dropped a noisemaker
02:07:38 = Sovremenny DD was hit by Dille's Mark 48 LR
02:07:38 = Sovremenny DD was hit by Dille's Mark 48 LR
02:07:40 = Sovremenny DD was destroyed by Dille
02:08:44 = Dille fired a Mark 48 WH at Krivak II FFG
02:09:04 = Cargo Ship was hit by Dille's Mark 48 WH
02:09:14 = Cargo Ship was hit by Dille's Mark 48 WH
02:09:16 = Dille fired a Mark 48 WH at Oil Tanker
02:09:24 = Cargo Ship was destroyed by Dille
02:09:34 = Cargo Ship was destroyed by Dille
02:10:24 = Dille fired a Mark 48 WH at Oil Tanker
02:10:30 = Oil Tanker was hit by Dille's Mark 48 WH
02:10:52 = Dille fired a Mark 48 LR at Krivak II FFG
02:14:50 = Oil Tanker was hit by Dille's Mark 48 WH
02:16:08 = Oil Tanker was hit by Dille's Mark 48 WH
02:16:10 = Oil Tanker was destroyed by Dille
02:17:00 = Dille fired a Harpoon at Krivak II FFG
02:17:20 = Krivak II FFG was hit by Dille's Harpoon
02:17:40 = Krivak II FFG was destroyed by Dille
02:18:00 = logbook entry and status report:
mission successfully completed

Debrief and Lessons Learned

As we allowed the convoy to close our position, the opportunity to engage the Akula presented itself. Although we set up a classic ambush, the Akula immediately decoyed one shot of the three-shot salvo through a quick maneuver. We allowed the other two torpedoes to continue toward her and put the third high-speed shot on a sub search pattern before it went off guidance. This shot acquired the Alfa and gave her a solid early hit before she had the opportunity to go evasive.

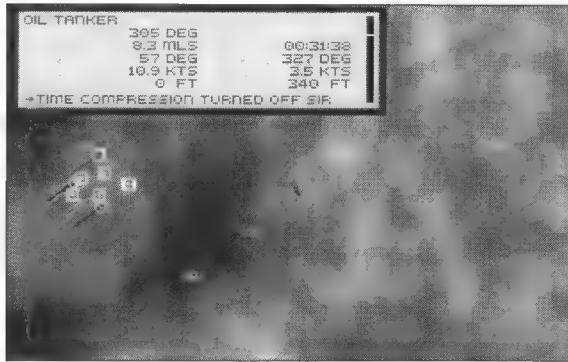


Figure 9-24 Relative positioning of the units at problem start. The *Seawolf* has detected, but not identified, the submarine escorts.

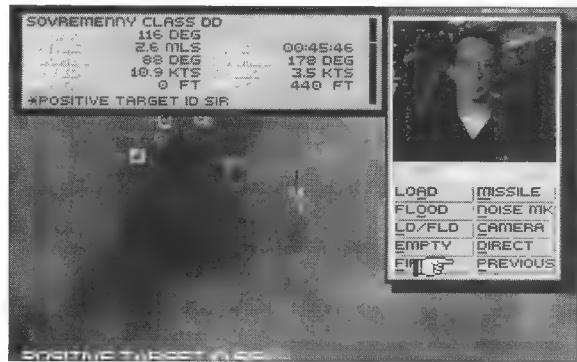


Figure 9-25 If you initiate the submarine search program on a Mk 48 and it acquires a submarine that you have not specifically targeted, that sub will not become aware of the Mk 48 until it is close aboard, thereby increasing the chances of a hit immensely.

We pressed the attacks on the two submarines and managed to kill the Alfa and scare the Akula away from the area. That allowed us to divert our entire attention to the convoy, which we decided to dismantle piecemeal. We began working our way through the merchants and taking careful shots at the escorts when they presented themselves. Because we were using a lot of wake homers at this point, our concern was to avoid a prolonged chase of one of the warships, which crossed the wakes of the friendlies in the group. Any such crossing might cause the wakehommer to become temporarily confused and, when it reacquired, it could do so on an unintended target.

When the initial attacks were complete, the *Seawolf* found herself in the unenviable position of falling behind the remaining targets. That mandated an increase in speed to close the group, but the danger of the helicopters remained. At this stage of the engagement, picking shots carefully was critical to success. One errant torpedo and we would have all gone to the long green table with no ashtrays (court martial).



Figure 9-26 One hour into the attack, a four shot salvo is en route to Moskva. The *Seawolf* has just speared a trailing tanker that was falling behind the formation because of prior damage.



Figure 9-27 Seawolf must choose her shots carefully.



Figure 9-28 Use long-range Mk 48s under guidance to thread the needle and slow down those lead ships.

At one-quarter power, the closure rate to the convoy would not be sufficient to complete our attacks within the required time limit. As such, the *Seawolf* began a series of sprints, dropping down to 500 feet or better and increasing speed to one-half power for a period of time, then bleeding the speed off and returning to attack depth to reacquire the targets. This method allowed us to avoid the helicopters and set up some long-range shots on the leaders to slow the convoy down. Once these tankers are damaged, they will fall behind the main body, making it easy to finish them without endangering the friendlies.

Subsequently, the remaining members of the convoy began a staggered turn to the South. This turned out to be their fatal error, because it put the one remaining friendly on the outside of the formation, at the point farthest away from the *Seawolf*. Thus our only remaining concern was to ensure that we did not overallocate weapons to destroy the final hostiles, thereby leaving some extras in the water that might find our buddy out there.

The remainder of the engagement went smoothly and though we feared that the damaged Akula might come back to complicate the situation, she never did. Here's the latest message traffic on the mission.

Figure 9-29
Creating some stragglers to mop up.



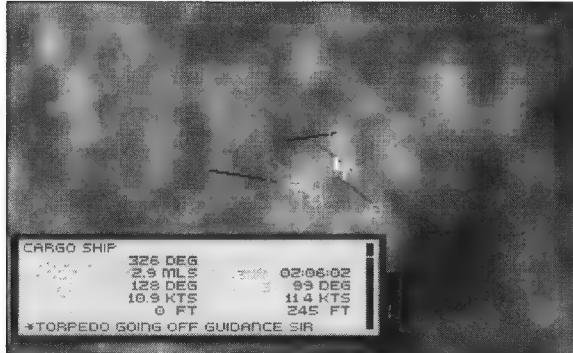


Figure 9-30 The enemy's fatal error, a turn to the south that clears the friendly unit from the danger zone.

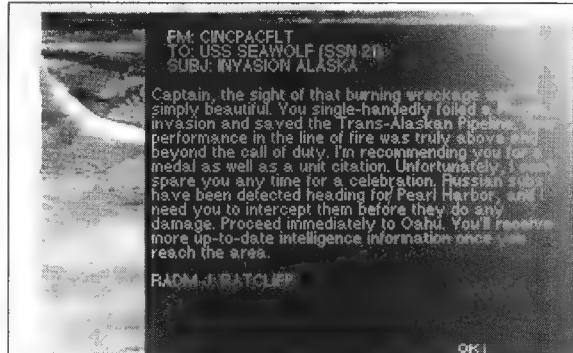


Figure 9-31 Admiral Ratliff tells us what to expect next.

Hints

What makes this mission difficult is the sheer number of targets that must be successfully engaged. Oil tankers require three hits to destroy, so they consume a significant portion of the *Seawolf*'s weapons load. There are friendly ships in the middle of the Soviet group that must be avoided. The SSNs and helicopters will be looking for you, and the Sovremennys will be using active sonar to find you. Once you are located, Moskva and Krivak will rain SSN-14s on your head, and everyone else will move in for their own attacks. The only way to come out of this one with any degree of certainty is to avoid detection completely, or for as long as possible while you are thinning out the opposition.



MISSION THIRTY-TWO: PEARL BOUND

Situation Report

The Soviet navy finally appears to have its back against the wall. Defeated on almost every front, it is launching a last-ditch effort against the major U.S. facility in the Pacific, Pearl Harbor. CINCPACFLT has ordered every unit in the harbor that is capable of getting under way to conduct an emergency sortie. The *Seawolf* is to cover their egress by searching for and destroying any Soviet submarines that may be lurking in the area.

Intelligence Report

SOSUS monitoring has picked up two Alfas and two Akula class SSNs in the waters off Hawaii. We have no current locating data and are uncertain as to how far the Soviets may have penetrated into the undersea defenses around the channel leading into Pearl. As you know, these consist of barrier nets and minefields. If we are lucky, one or more of the missing aggressors may already have fallen prey to these precautionary measures.

Synopsis of Orders

Find the Soviet attack boats and kill them. You cannot afford to be concerned with protecting individual U.S. ships or submarines leaving Pearl Harbor. They are well aware of the threat and will be taking their own measures to protect themselves. The *Seawolf* is to focus on the job at hand and take out those Soviets just as if you were all alone out there.

Rules of Engagement

Warning Red, Weapons Tight. Other U.S. submarines will be leaving port to reach the safety of open waters. The *Seawolf* must be extremely careful not to impede their progress. Verify all targets as hostile prior to engagement and maintain positive control of weapons in view of the density of friendly traffic in the area.

Executive Officer's Comments

If those Soviet boats have penetrated the underwater defenses, God help those skimmers. We are going to have to look out for Number One in this mission, just like the big boss said. It might be tough to get a handle on them with all this activity going on, particularly in shallow water, but we are going to have to focus on picking them off, one by one.

The Captain's Log

Mission time: 01:56:00

Ships destroyed: 0

Subs destroyed: 3

Torpedoes used: 13

Torpedoes hit: 8

Torpedoes evaded: 1

Torpedoes hit us: 0

Noisemakers used: 2

Active sonar: 0

Ident. right/wrong: 2/0

00:01:24 = Alfa SSN fired a Type 53 LR at Nimitz CVN

00:01:52 = Alfa SSN fired a Type 53 LR at Nimitz CVN

00:04:38 = Alfa SSN fired a Type 53 LR at Ohio SSBN

00:05:32 = Alfa SSN fired a Type 53 HS at Nimitz CVN

00:06:00 = Alfa SSN fired a Type 53 HS at Nimitz CVN

00:07:32 = Ohio SSBN was hit by Alfa SSN's Type 53 LR

00:07:36 = Akula SSN fired a Type 66 HS at Merchant Ship Type 1

00:09:12 = Alfa SSN fired a Type 66 HS at Ohio SSBN

00:09:30 = Merchant Ship Type 1 was hit by Akula SSN's Type 66 HS

00:09:32 = Alfa SSN fired a Type 66 HS at Ohio SSBN

00:09:42 = Alfa SSN fired a Type 53 HS at Nimitz CVN

00:09:52 = Garcia FF was hit by Alfa SSN's Type 53 HS

00:09:52 = Adams DDG dropped a depth charge

00:10:10 = Adams DDG dropped a depth charge

00:10:10 = Alfa SSN fired a Type 53 HS at Nimitz CVN

00:10:12 = Garcia FF was destroyed by Alfa SSN

00:10:20 = Adams DDG dropped a depth charge

00:10:40 = Adams DDG dropped a depth charge

00:10:50 = Adams DDG dropped a depth charge

00:11:00 = Adams DDG dropped a depth charge

00:11:30 = Akula SSN fired a Type 66 HS at Merchant Ship Type 1

00:11:50 = Akula SSN fired a Type 66 HS at Merchant Ship Type 1

00:11:50 = Merchant Ship Type 1 was hit by Akula SSN's Type 66 HS

00:13:06 = Ohio SSBN was hit by Alfa SSN's Type 66 HS

00:13:14 = Nimitz CVN was hit by Alfa SSN's Type 53 HS

00:13:20 = Alfa SSN fired a Type 66 HS at Ohio SSBN

00:13:26 = Nimitz CVN was hit by Alfa SSN's Type 53 HS

00:13:26 = Ohio SSBN was destroyed by Alfa SSN

00:13:56 = Alfa SSN fired a Type 53 HS at Nimitz CVN

00:14:24 = Alfa SSN fired a Type 53 HS at Nimitz CVN
00:14:38 = Adams DDG dropped a depth charge
00:14:56 = Adams DDG dropped a depth charge
00:15:06 = Adams DDG dropped a depth charge
00:15:08 = Nimitz CVN was hit by Alfa SSN's Type 53 HS
00:15:10 = Akula SSN was hit by Adams DDG's Depth Charge
00:15:12 = Nimitz CVN was hit by Alfa SSN's Type 53 HS
00:15:14 = Nimitz CVN was destroyed by Alfa SSN
00:15:20 = Akula SSN fired a Type 66 HS at Merchant Ship Type 1
00:15:26 = Adams DDG dropped a depth charge
00:15:30 = Akula SSN was hit by Adams DDG's Depth Charge
00:15:32 = Akula SSN was destroyed by Adams DDG
00:16:56 = Merchant Ship Type 1 was hit by an unknown vessel's
Type 66 HS
00:17:04 = Alfa SSN fired an Anti-Ship Missile at Adams DDG
00:17:24 = Adams DDG was hit by Alfa SSN's Anti-Ship Missile
00:17:44 = Adams DDG was destroyed by Alfa SSN
00:20:22 = Dille fired a Mark 48 HS at Alfa SSN
00:20:24 = Dille fired a Mark 48 HS at Alfa SSN
00:20:30 = Dille fired a Mark 48 HS at Alfa SSN
00:21:42 = Alfa SSN was hit by Dille's Mark 48 HS
00:21:54 = Akula SSN fired a SS-N-15 Missile at Benjamin Franklin
SSBN
00:22:42 = Alfa SSN dropped a noisemaker
00:23:56 = Akula SSN fired a SS-N-15 Missile at Benjamin Franklin
SSBN
00:24:16 = Benjamin Franklin SSBN was hit by Akula SSN's
SS-N-15 Missile
00:26:12 = Benjamin Franklin SSBN was hit by Akula SSN's
SS-N-15 Missile
00:26:32 = Benjamin Franklin SSBN was destroyed by Akula SSN
00:33:24 = Dille fired a Mark 48 HS at Alfa SSN
00:33:28 = Dille fired a Mark 48 HS at Alfa SSN
00:34:28 = Alfa SSN was hit by Dille's Mark 48 HS
00:34:32 = Alfa SSN was hit by Dille's Mark 48 HS
00:34:34 = Alfa SSN was destroyed by Dille
00:40:22 = Dille correctly identified Akula SSN

00:41:26 = Dille fired a Sea Lance at Akula SSN
00:42:16 = Akula SSN dropped a noisemaker
00:42:40 = Dille fired a Sea Lance at Akula SSN
00:46:26 = Akula SSN fired a Type 53 LR at secondary waypoint
00:47:26 = Spruance DD dropped a depth charge
00:47:44 = Spruance DD dropped a depth charge
00:47:54 = Spruance DD dropped a depth charge
00:48:14 = Spruance DD dropped a depth charge
00:48:24 = Spruance DD dropped a depth charge
00:48:34 = Spruance DD dropped a depth charge
00:54:52 = Akula SSN fired a Type 66 HS at Virginia CGN
00:55:12 = Akula SSN fired a Type 66 HS at Virginia CGN
00:57:30 = Virginia CGN was hit by Akula SSN's Type 66 HS
00:57:46 = Virginia CGN was hit by Akula SSN's Type 66 HS
00:57:48 = Virginia CGN was destroyed by Akula SSN
00:58:26 = Akula SSN fired a Type 66 HS at Knox FF
00:58:46 = Akula SSN fired a Type 66 HS at Knox FF
01:01:04 = Knox FF was hit by Akula SSN's Type 66 HS
01:01:24 = Knox FF was destroyed by Akula SSN
01:13:40 = Akula SSN fired a Type 53 LR at Dille
01:14:30 = Dille dropped a noisemaker
01:16:46 = Dille correctly identified Akula SSN
01:17:20 = Dille fired a Mark 48 HS at Akula SSN
01:17:48 = Dille fired a Mark 48 HS at Akula SSN
01:17:50 = Akula SSN was hit by Dille's Mark 48 HS
01:18:08 = Akula SSN was hit by Dille's Mark 48 HS
01:18:14 = Dille fired a Mark 48 LR at Akula SSN
01:18:28 = Akula SSN was destroyed by Dille
01:18:48 = Dille dropped a noisemaker
01:19:48 = Mark 48 LR was detonated by Dille
01:54:42 = Dille fired a Mark 48 HS at Alfa SSN
01:54:44 = Dille fired a Mark 48 HS at Alfa SSN
01:54:50 = Dille fired a Mark 48 HS at Alfa SSN
01:55:38 = Alfa SSN was hit by Dille's Mark 48 HS
01:55:42 = Alfa SSN was hit by Dille's Mark 48 HS
01:55:42 = Alfa SSN was hit by Dille's Mark 48 HS

01:55:44 = Alfa SSN was destroyed by Dille
 01:56:00 = logbook entry and status report:
 mission successfully completed

Debrief and Lessons Learned

At the beginning of this mission, the *Seawolf* was out of position to assist any of the friendly groups under attack. Forced into the role of observer, we began a slow approach on the Alfa inside the harbor.



Figure 9-32 The nightmare scenario. At problem start, one Alfa and one Akula have already penetrated into the inner harbor. The second Akula is in the main channel to the south and the final Alfa is just outside the harbor entrance.

After the Alfa completed her initial attack runs, she slowed down again to reacquire new targets. This was our time to initiate the action. While we loaded tubes and got ready to strike, Adams got in a clean kill on the Akula in the inner part of the harbor. Maybe things wouldn't turn out as badly as we had feared.

Deprived of her partner in crime, the Alfa didn't seem quite as intimidating as she had before. We closed with him and set up a pattern of three torpedoes, each of which locked onto him from different angle. It turned out to be more than she could handle. The *Seawolf* then turned to the south and acquired the second Akula, steaming placidly in the main shipping channel about 7 miles from our current position. We used a Sea Lance to get her busy and prevent her from attacking some friendlies that were nearby, then kicked up speed to close her position. Subsequently we performed a little "quail hunting" and she was history. The final Alfa turned out to be less challenging than the first, and we were able to finish her without a great deal of trouble.

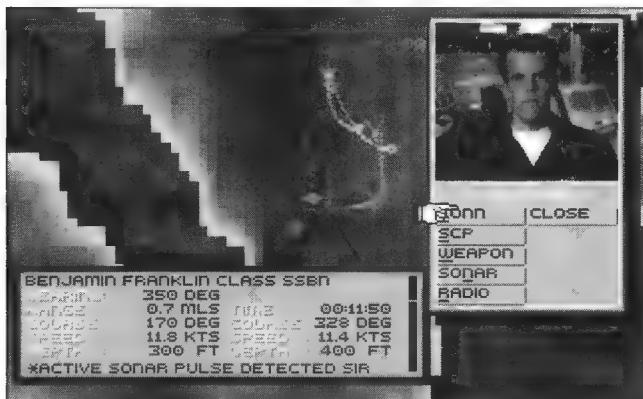


Figure 9-33 The best the *Seawolf* can do at the outset is to avoid either giving or receiving friendly fire.

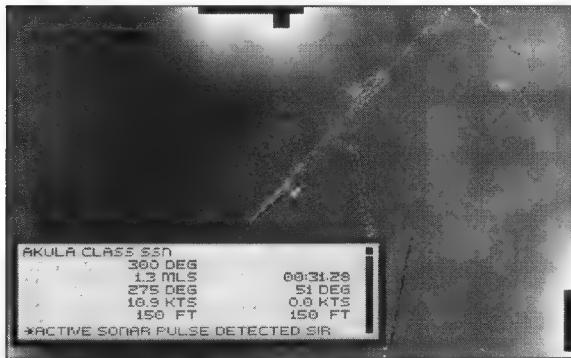


Figure 9-34 When things thin out a bit, it's time for the *Seawolf* to get down to business with the boats in the harbor.

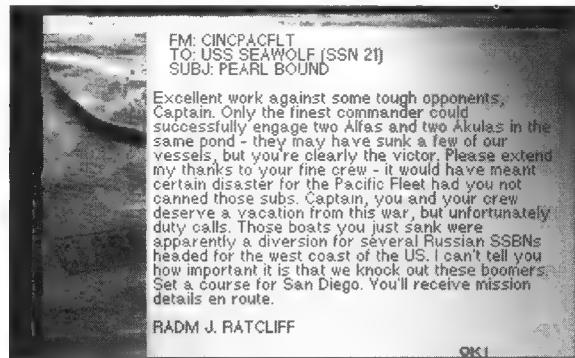


Figure 9-35 A lot of shipmates lost their lives in this action, even though it was not the *Seawolf*'s job to protect them, victory can be a bittersweet pill to swallow, despite the kind words.

Hints

The *Seawolf* is pretty much going to have to do all the work on this one. Friendly help arrives once in a while, as in this successful replay in which the Adams got lucky, but this is the exception rather than the rule. Once you have found a target, stay on her until she is dead, then look for the next one.

MISSION THIRTY-THREE: SURF HUNT

Situation Report

The Soviets are down to their last card. All of their surface groups either have been destroyed or are in full retreat. The war is drawing to a close. All that remains of the once-proud Soviet offensive are several SSBNs approaching the southern California coastline. The *Seawolf* has been ordered into the area to run a patrol and find the boomers. They must be destroyed to remove any final threat of civilian casualties.

Intelligence Report

The Soviet force is known to consist of the following units:

- 2 Delta class SSBN
- 3 Typhoon class SSBN
- 3 Akula class SSN

The training levels of these units are considered to be extremely high. The *Seawolf* will be in constant danger during the course of this mission. Further, the necessity of engaging and destroying all of the SSBNs with existing on-board weapons inventory dictates that all shots must be well placed. Good luck, Captain.

Synopsis of Orders

The *Seawolf* has six hours to locate and destroy all five Soviet SSBNs. Avoid prolonged engagements with the attack boats, which will consume your Mk 48s unnecessarily. Once the boomers have been dealt with, you may engage the other units at will.

Rules of Engagement

Warning Red, Weapons Free. You are all alone out there, Captain; shoot them when you find them.

Executive Officer's Comments:

It's a good thing they gave us that much time, because I sure don't expect Ivan to cooperate by lining up our ducks for us. Stealthy maneuver will be the key to this one. We've got to crawl into their baffles and stay there until each one is gone. If we give ourselves away to the Akulas we may not have enough torpedoes to finish the mission.

The Captain's Log

Mission time: 05:34:00
Ships destroyed: 0
Subs destroyed: 8
Torpedoes used: 25
Torpedoes hit: 20
Torpedoes evaded: 6

Torpedoes hit us: 1

Noisemakers used: 4

Active sonar: 0

Ident. right/wrong: 0/0

00:33:58 = Dille fired a Mark 48 LR at Delta IV SSBN

00:34:28 = Dille fired a Mark 48 LR at Delta IV SSBN

00:34:42 = Dille fired a Mark 48 LR at Delta IV SSBN

00:35:22 = Delta IV SSBN dropped a noisemaker

00:35:56 = Delta IV SSBN was hit by Dille's Mark 48 LR

00:38:16 = Dille fired a Mark 48 HS at Delta IV SSBN

00:38:54 = Delta IV SSBN was hit by Dille's Mark 48 LR

00:39:46 = Delta IV SSBN dropped a noisemaker

00:46:46 = Delta IV SSBN dropped a noisemaker

00:48:52 = Dille fired a Mark 48 HS at Delta IV SSBN

00:49:34 = Delta IV SSBN was hit by Dille's Mark 48 HS

00:49:54 = Delta IV SSBN was destroyed by Dille

01:04:26 = Akula SSN fired a Type 53 LR at Dille

01:04:54 = Akula SSN fired a Type 53 LR at Dille

01:05:24 = Dille dropped a noisemaker

01:06:18 = Dille fired a Mark 48 LR at Akula SSN

01:07:20 = Akula SSN dropped a noisemaker

01:09:56 = Akula SSN was hit by Dille's Mark 48 LR

01:12:08 = Dille fired a Mark 48 LR at Akula SSN

01:12:44 = Akula SSN was hit by Dille's Mark 48 LR

01:13:04 = Akula SSN dropped a noisemaker

01:13:04 = Akula SSN was destroyed by Dille

01:14:42 = Mark 48 LR was detonated by Dille

01:22:04 = Dille fired a Mark 48 LR at Delta IV SSBN

01:23:18 = Delta IV SSBN was hit by Dille's Mark 48 LR

01:23:36 = Dille fired a Mark 48 LR at Delta IV SSBN

01:24:52 = Delta IV SSBN was hit by Dille's Mark 48 LR

01:24:58 = Dille fired a Mark 48 LR at Delta IV SSBN

01:26:12 = Delta IV SSBN was hit by Dille's Mark 48 LR

01:26:32 = Delta IV SSBN was destroyed by Dille

01:51:38 = Dille fired a Mark 48 LR at Typhoon SSBN

01:52:34 = Typhoon SSBN was hit by Dille's Mark 48 LR

01:52:38 = Dille fired a Mark 48 LR at Typhoon SSBN
01:53:04 = Akula SSN fired a SS-N-15 Missile at Dille
01:53:28 = Dille fired a Mark 48 LR at Typhoon SSBN
01:53:34 = Typhoon SSBN was hit by Dille's Mark 48 LR
01:53:38 = Dille dropped a noisemaker
01:54:10 = Typhoon SSBN dropped a noisemaker
01:58:40 = Mark 48 LR was detonated by Dille
02:01:54 = Akula SSN fired a SS-N-15 Missile at Dille
02:03:00 = Dille dropped a noisemaker
02:08:02 = Typhoon SSBN was hit by Akula SSN's SS-N-15 Missile
02:08:24 = Typhoon SSBN was destroyed by Akula SSN
02:11:06 = Akula SSN fired a Type 53 LR at Dille
02:17:10 = Dille fired a Mark 48 LR at Typhoon SSBN
02:17:42 = Typhoon SSBN dropped a noisemaker
02:17:54 = Typhoon SSBN was hit by Dille's Mark 48 LR
02:19:22 = Dille fired a Mark 48 LR at Typhoon SSBN
02:23:20 = Typhoon SSBN dropped a noisemaker
02:23:54 = Typhoon SSBN was hit by Dille's Mark 48 LR
02:24:48 = Dille fired a Mark 48 WH at Typhoon SSBN
02:28:56 = Typhoon SSBN dropped a noisemaker
02:30:32 = Dille fired a Sea Lance at Typhoon SSBN
02:32:16 = Typhoon SSBN was hit by Dille's Sea Lance
02:32:36 = Typhoon SSBN was destroyed by Dille
02:50:52 = Dille fired a Mark 48 LR at secondary waypoint
02:53:42 = Akula SSN fired a Type 53 LR at secondary waypoint
02:56:26 = Dille fired a Sea Lance at Akula SSN
02:57:02 = Akula SSN dropped a noisemaker
03:02:10 = Akula SSN dropped a noisemaker
03:02:12 = Akula SSN was hit by Dille's Sea Lance
03:14:10 = Dille fired a Mark 48 HS at Akula SSN
03:15:10 = Akula SSN was hit by Dille's Mark 48 HS
03:15:30 = Akula SSN was destroyed by Dille
03:36:20 = Akula SSN fired a SS-N-15 Missile at Dille
03:37:42 = Dille dropped a noisemaker
03:38:20 = Akula SSN fired a SS-N-15 Missile at Dille

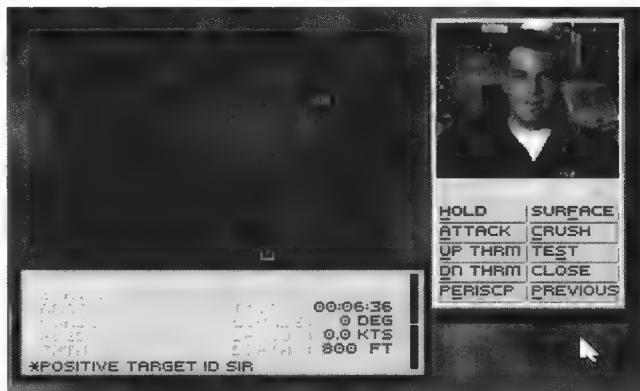
03:38:44 = Dille was hit by Akula SSN's SS-N-15 Missile
03:39:06 = damage control report: steam leak in the engine room
03:59:38 = Dille fired a Mark 48 HS at Akula SSN
04:00:08 = Akula SSN dropped a noisemaker
04:01:36 = Akula SSN was hit by Dille's Mark 48 HS
04:09:36 = Dille fired a Mark 48 LR at secondary waypoint
04:15:48 = Akula SSN dropped a noisemaker
04:16:06 = Dille fired a Mark 48 ST at secondary waypoint
04:19:54 = Akula SSN dropped a noisemaker
04:20:52 = Dille fired a Mark 48 ST at secondary waypoint
04:25:04 = Akula SSN dropped a noisemaker
04:25:34 = Akula SSN was hit by Dille's Mark 48 ST
04:26:04 = Akula SSN was destroyed by Dille
05:30:12 = Dille fired Mark 48 LR at Typhoon SSBN
05:31:04 = Typhoon SSBN was hit by Dille's Mark 48 LR
05:31:16 = Dille fired Mark 48 LR at Typhoon SSBN
05:32:02 = Dille fired Mark 48 LR at Typhoon SSBN
05:32:24 = Typhoon SSBN was hit by Dille's Mark 48 LR
05:33:10 = Typhoon SSBN was hit by Dille's Mark 48 LR
05:34:00 = logbook entry and status report: mission successfully completed

Debrief and Lessons Learned

The *Seawolf* deployed the towed array and dropped to the deep sound channel, which was located at approximately 800 feet. From that vantage point, we began to track the majority of our targets. It appeared that some of our objectives would waltz into our laps if we stayed put, so that's exactly what we did.

As each boomer came within range, the *Seawolf* swung into her baffles and matched speed. Each shot we took was placed with care, because there was little, if any, margin for error. While we were

Figure 9-36
The starting lineup for the final hunt.



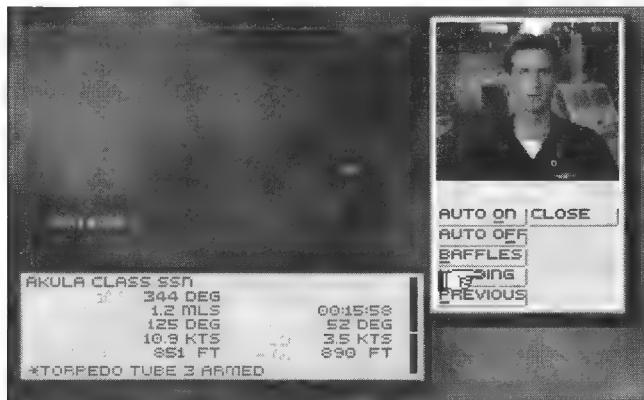


Figure 9-37 Two Akulas are in tight patrol patterns and won't come out of them until Seawolf is located. The third escorts one of the boomers closely.

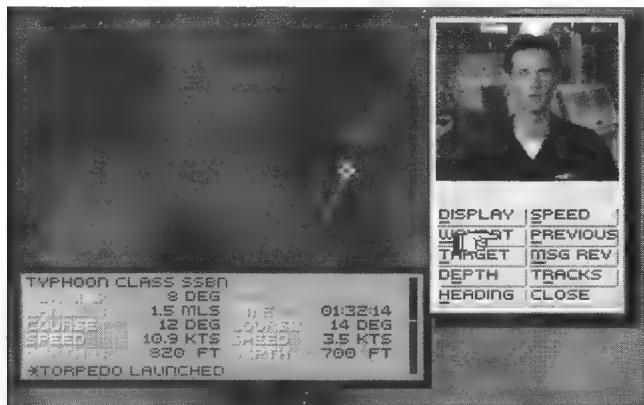


Figure 9-38 The perfect firing position on a Typhoon, but here comes Mr. Akula!

fixated on one of the boomers, however, it was easy for the Akulas to close our position.

In general, our engagements of the individual targets moved from east to west, and slightly to the south as time went on. The crew exhibited a lot of patience and caution throughout, which was critical to achieving this final success.

Hints

The SSBNs in this mission are pretty tough to hit. There are five of them to kill and they each require three hits. That means that even if you take the Akulas out of the equation, 15 of the 24 Mk 48s must hit. The Akulas will make things very difficult for you if they find you, but you can get through the mission with minimal Akula interference in some circumstances. Two of them begin in tight patrol patterns that can be avoided if you do not rush after the SSBNs to the south and west (i.e., let them come to you). The third is escorting one of the boomers and you are going to have to fire at least one torpedo at her to keep her occupied.

The best way to get the SSBNs is to fall in *directly* in their baffles. In other words, your track on the plot should cover the dots of the SSBM's wake. In this position, she is truly blind to your actions. Load and fire one long-range torpedo at a time, repeating the process after each one hits home. Anything else and they may evade the shot. That can only happen a couple of times before you have no hope of completing the mission, so play your cards close to your vest. This is the final true test of your mettle as a sub skipper, so hang tough and good luck!

Glossary

Abort To cut short or break off an action, operation, or procedure involving an aircraft, a guided missile, or the like, especially because of equipment failure; for example, to abort a mission.

Acoustic Mines Mines that detonate when they detect the sound made by a passing vessel. Some can be set to “listen” for only the sounds indicative of specific classes of ships.

Active In naval warfare, any device that transmits a signal. The term is generally applied to sensors, though communication devices are generally active as well.

Aft Toward the rear of a ship, aircraft, or other means of transport.

Ambient Noise The total background noise, measured in decibels. The source level of contacts must be higher than ambient noise for *Seawolf* to detect them.

Anechoic Coating A composite material, made of rubber and other sound-deadening materials that is applied to submarine hulls and other surfaces (such as the interior decking) to lessen the effectiveness of active sonar signals.

Annulus The donut-shaped area that a convergence zone can search.

Anti-Submarine Warfare The art and science of finding and destroying submarines—the job of maritime patrol aircraft and of many surface ships.

Anti-Surface Warfare The art and science of destroying surface ships and land targets—the job of bomber pilots and of a great many naval officers.

ASCM Anti-ship cruise missile.

ASROC Anti-submarine rocket.

ASUW Anti-surface warfare.

ASW Anti-submarine warfare.

Attack Depth 150 feet. From this depth the *Seawolf* can launch her missiles.

Baffles The area directly astern of a ship or submarine (where the propellers are) and 30 degrees on either side of that line. The baffles are significant because they represent a blind spot, from where approaching enemies cannot be heard.

Bare Steerageway The minimum speed necessary to change headings and conn the boat. For *Seawolf*, this is 3.5 knots.

Base Course The direction in which the vessel is really traveling, though it may deviate from the base course using the tactic of zig-zagging.

Battle Space The area a commander has to work in. It affects many other factors in a battle, including decisions about formations and deployments, detection, and tactics.

Best Depth The depth at which *Seawolf* is hardest to detect by surface ships. Best depth is always the depth of the first thermal layer plus 200 feet.

Biological A catch all term that refers to marine life. Used to distinguish these types of sonar contacts from the man made targets that the *Seawolf* is looking for.

Blue Water A synonym for deep water or large bodies of water. A blue-water navy is one whose forces operate far out at sea and in many different parts of the world. The United States Navy is a blue-water navy.

Broadband Noise Sound signals received by the sonar array which contain many overlapping frequencies. If you hold a broadband contact, you can detect and track him, but you lack the discrete frequencies necessary to classify the hull type of the contact.

Brown Water A synonym for shallow or coastal waters. A brown-water navy operates close to home—generally in or near its own coastal waters. The Argentine Navy is one example of a brown-water navy.

Captor Mines Mines that consist of a sensor array and a torpedo. When the sensor detects a passing vessel, it activates the torpedo, which

attacks the vessel. Captor mines are generally employed in deep water to attack submarines, but they can be used elsewhere as well.

Cavitation At high speeds (the speed varies with the kind of vessel), propellers turn fast enough to form air bubbles. These air bubbles produce noise as they collapse, making the vessel noisier and easier to detect.

CG Designation for a Guided Missile Cruiser.

Chaff Thin foil strips dropped by airplanes or fired by ship-mounted mortars to confuse radar-guided missiles.

CINCEUR Commander in Chief, European Command.

CINCLANT Commander in Chief, Atlantic Command.

CIS The Commonwealth of Independent States.

CIWS Close-in weapon system (see below).

Classification Identification of the hull type, or class of a given contact. The primary method of classifying a contact in Seawolf is to analyze its sound signature.

CLOS Command to line-of-sight.

Close-In Weapon System A small-caliber, extremely high-rate-of-fire, automated weapon system designed to shoot down missiles as they approach a ship. The premier example is the U.S. Navy's Phalanx 20-mm Gatling Gun, generally called the "Sea Whiz."

COMINT Communications Intelligence.

Converge Zone (CZ) An area on the surface of the ocean where a sound source reflects at the surface boundary after recurring upward from the thermal layer.

CSW Conventional standoff weapon.

Datum The term used to refer to the last known position of a submarine once contact has been lost.

Deploy To put forth equipment or a system into the environment in which it was designed to operate.

Direct Path Ray The portion of a surface ship's active sonar transmission that passes through the thermal layer without recurring upward.

DoD Department of Defense.

ECCM Electronic counter-countermeasures.

ECM Electronic countermeasures, such as jamming.

ELINT Electronic intelligence.

ESM Electronic support measures.

ETA Estimated time of arrival.

EW Electronic warfare.

FCS Fire-control system.

Flow Noise Broadband noise created by water passing over or around a ship or submarine hull. The greater the speed at which the unit is travelling, the higher the flow noise. Flow noise not only increases a units own sound signature, it reduces their ability to detect other contacts passively as well.

HELO Signifies a helicopter.

HUMINT Intelligence gathered by human sources—that is, spies.

HVU High-value unit.

Hydrophone Effects The term used to describe the very distinct tonals emitted from a torpedo's screws.

JCS Joint Chiefs of Staff.

Knots A knot is the abbreviated term that refers to one nautical mile (2000 yards). If you say that a contact is traveling at 20 knots, he is going 20 nm/hr, which is slightly higher than 20 mph.

LAMPS Signifies a United States Navy Light Airborne Multi-Purpose System helicopter.

Launch To release or send forth; for example, to launch aircraft from an aircraft carrier.

Narrowband Noise A sound signal consisting of discrete tonals and harmonics. These frequency lines are used to identify, or classify a contact of interest.

NATO North Atlantic Treaty Organization.

NSA National Security Agency.

NSC National Security Council.

OTH Over-the-horizon.

PIM Planned intended movement. The course which a ship has plotted to get from one point to another. PIM is used for transits of some distance, not for tactical maneuvering.

Ping To send out an active sonar pulse, or transmission.

Radar A device that uses reflected radio waves for the detection of objects.

REC Reconnaissance.

RORSAT A radar satellite that sweeps designated portions of the ocean and dumps its locating data to intelligence gathering agencies.

SAM Surface-to-air missile.

Screws A slang term which refers to propellers.

Self Noise The baseline noise generated by ones own ship. Self noise is a factor of machinery noise, flow noise and cavitation. High self noise levels make detection of other targets more difficult.

Shadow Zone The area between the direct path ray and the convergence ray or a ship's active sonar transmission. Astute sub skippers can hide in the shadow zone.

Skimmer Submarine slang for a surface ship.

SLOC A sea lane, or line of communication. SLOC refers to the critical ocean shipping lanes, through which most of the world's commerce travels.

Sonar A hydrophone array which can detect targets passively, based on their radiated noise, or actively by bouncing strong pulses of sound energy off their hulls and interpolating the returns.

SOSUS Sound surveillance system that is deployed permanently on the ocean bottom along likely submarine transit routes.

SS Signifies a diesel powered attack submarine.

SSM Surface-to-surface missile.

SSBN Signifies a nuclear-powered ballistic missile submarine.

SSGN Signifies a nuclear-powered cruise missile submarine.

SSN Signifies a nuclear-powered attack submarine.

SSNDS The acronym for a submarine operating in direct support of other units.

Sound Channel A deep water condition when multiple thermal layers are present. Sound that originates between two of these deep thermal boundaries tends to get trapped between them, preventing detection by any other units which are not in the same sound channel. SSBNs can frequently be found lurking in deep sound channels.

Stasis Torpedo A torpedo that is designed to remain inactive (in stasis) for a set amount of time after its release.

SUBROC Submarine-launched rocket

Surface Isothermal Layer The layer of water closest to the surface of the ocean, where the sun's rays have heated the water to a constant, even temperature.

SURTASS Surveillance towed array sensor system.

TACCSIT A tactical problem designed specifically to test the recipient's grasp of situational tactics.

TACTAS Tactical towed array sonar, used on the Ticonderoga-class cruisers as part of their detection and tracking system.

Thermal Layer (or just Thermal) A layer of water of relatively constant temperature that is bounded by another layer of a different temperature. Thermal layers are formed naturally in the interaction of the sun, wind, waves, tides and currents. The tactical significance of thermal layers is that they reflect or refract sound waves, based on the angle of incidence.

Threshold of Detection The combination of self noise and ambient noise. Contacts of interest must have source levels higher than this figure for *Seawolf* to detect them.

Transmission Loss The decibel amount of a sound wave that is lost, or attenuated through spreading, absorption and scattering.

USS Signifies a United States naval craft.

Wake The low pressure area a ship creates after passing through the water.

Wake homer Slang for a torpedo variant that is designed to follow a ship's wake.

Waterfall Another method of referring to the BSY-2 Sonar console display.

Bibliography

- Allen, Thomas B., F. Clifton Berry, and Norman Polmar. *CNN War in the Gulf: From the Invasion of Kuwait to the Day of Victory and Beyond*. Atlanta: Turner Publishing, Inc., 1991.
A media retrospective on the Gulf War.
- Berman, Robert and Bill Gunston. *Rockets and Missiles of World War III*. New York: Exeter Books, 1983.
Development history and technical specifications for weapons systems from around the world.
- Clancy, Tom. *Submarine: A Guided Tour Inside a Nuclear Warship*. New York: Berkley Books, 1993.
A perspective on the status of undersea warfare and the men who have mastered it.
- Friedman, Norman. *Desert Victory: The War for Kuwait*. Annapolis: Naval Institute Press, 1991.
A defense analyst's perspective on the Gulf War.
- George, James L., ed. *Problems of Sea Power As We Approach the Twenty-First Century*. Washington, DC: American Enterprise Institute for Public Policy Research, 1978.
A collection of essays from noted naval strategists and policy analysts.
- Galuppini, Gino. *Warships of the World: An Illustrated Encyclopedia*. New York: Military Press, 1986.
Covers the world's warships, including deck plans, armament, and sensor systems.
- Hastings, Max and Simon Jenkins. *The Battle for the Falklands*. New York: W. W. Norton & Company, 1983.
A history of the events surrounding the battle for the Falklands between the United Kingdom and Argentina.

- MacDonald, Constance, ed. *Naval Operations Analysis*, 2nd ed. Annapolis: Naval Institute Press, 1977. A textbook covering the theory, probability and statistics, and scientific studies surrounding modern naval warfare.
- Meisner, Arnold. *Desert Storm: Sea War*. Osceola: Motorbooks International Publishers & Wholesalers, 1991. A pictorial and narrative perspective of operations at sea during Operations Desert Shield and Desert Storm.
- Middlebrook, Martin. *Operation Corporate: The Story of the Falklands War, 1982*. London: Penguin Books Ltd., 1987. Comprehensive overview of the Falklands conflict, including a wealth of first-hand experience and observation by the men who were there.
- Polmar, Norman. *Naval Institute Guide to the Soviet Navy*, 5th ed. Annapolis: Naval Institute Press, 1991. A thorough analysis of Soviet ship design philosophy and application.
- Prezelin, Bernard and A. D. Baker III. *The Naval Institute Guide to Combat Fleets of the World, 1990–1991: Their Ships, Aircraft and Armament*. Annapolis: Naval Institute Press, 1990. The most comprehensive of all existing reference books of technical specifications for the world's warships.
- Till, Geoffrey, ed. *Maritime Strategy and the Nuclear Age*, 2nd ed. New York: St. Martin's Press, 1984. A collection of essays exploring the impact of nuclear politics on the development of maritime strategy.

Index

A

- AAW defense, 54
 - lessons from, 58
- Absorption loss, 6-7
 - fish and, 8
- Adams DDG, 81-82
- ADCAPs, 53
 - loading of, 59-60
- Adriatic Detour mission, 174-179
- Aegean Dogfight mission, 179-183
- After-action summary, 133
- Akula SSN, 95
- Alaska Invasion mission, 258-265
- Alfa SSN, 95
- Alligator 3 LST, 74
- Amazon FFG, 86
- Ambient noise, 12
- Annulus, 9
- AN/SLQ-32 system, 56-57
- Anti-air warfare. *See* AAW defense
- Anti-surface warfare (ASUW). *See* ASUW
- Archangel Vigil mission, 136-142
- Array, 34-35
- ASUW, 53, 54
 - in chokepoint warfare, 61
 - elite ASUW, 90
 - novice ASUW, 89
 - veteran ASUW, 90
- ASW
 - elite ASW, 90-91
 - novice ASW, 90
 - veteran ASW, 90
- Attack submarines. *See* SSNs
- Attenuation, 8

B

- Backyard Boomers mission, 121-126
- Baffles, 16
 - option, 28
 - targeting on, 60
- Ballistic missile submarines. *See also* SSBNs
 - classes of, 91-94
- Baltic Duty mission, 159-163
- Barbary Pirates mission, 189-192
- Bare steerageway, 29
- Bastions, hunting in, 63-65
- Battle Royale mission, 129-133
- BDA (battle damage assessment), 228
- Bearings, 35
- Benjamin Franklin SSBN, 93
- Blockade Busting mission, 224-228
- Boomer Hunt mission, 251-258
- Bottom boundary, 6-7
- Broadband noise, 10-11
- BSY-2 sonar suite, 11
 - spikes on, 12
 - surface ship, detection of, 14

C

- Calm Before the Storm offensive, 105-133
 - Backyard Boomers mission, 121-125
 - Battle Royale mission, 129-133
 - Convoy Duty mission, 126-129
 - Déjà Vu mission, 115-121
 - Duckshoot mission, 110-115
 - Ivan Marches mission, 106-109
- Camera option, 23, 32

Captain's Log, 21

- on Adriatic Detour mission, 176-177
- on Aegean Dogfight mission, 180-182
- on Archangel Vigil mission, 137-140
- on Backyard Boomers mission, 122-124
- on Barbary Pirates mission, 190-191
- on Battle Royale mission, 131-132
- on Blockade Busting mission, 225-227
- on Boomer Hunt mission, 252-255
- on Channel Purge mission, 165-166
- on Chilly Reception mission, 143-145
- on Convoy Duty mission, 128
- on Dardanelle Duty mission, 184-186
- on Déjà Vu mission, 117-119
- on Duckshoot mission, 111-113
- on Evacuation mission, 230-231
- on Formosa Strait mission, 220-222
- on Indian Ocean Melee mission, 216-217
- on Invasion Alaska mission, 260-262
- on Iran-Busting mission, 210-212
- on Ivan Marches mission, 108
- on Kuril Invasion mission, 243-245
- on Med Cruise mission, 171-172
- on North Sea Melee mission, 148-149
- on Pearl Bound mission, 266-270
- on Red Sea Run mission, 201-203
- on Sakhalin Surprise mission, 248-249
- on Secret Service mission, 206-207
- on Suez Dodge mission, 193-196
- on Surf Hunt mission, 272-275
- on Sweden Bound mission, 156-158
- on Thread the Skag mission, 151-153
- on Vladivostok Patrol mission, 237-239

Cavitation, 11
 Chaff, 55
 Channel Purge mission, 163-167
 Charlie SSGN, 91
 CHAT message screen, 38
 Chilly Reception mission, 142-146
 Chokepoint warfare, 61
 Classification of contact, 12
 Clearing your baffles, 28
 Clear option for waypoints, 25
 Command at sea, 42-43
 Conning Command menu, 20-21
 Convergence zone (CZ), 9
 Convoy Duty mission, 126-129
 Convoy escorts, 49-50
 Counter-detection and detection, 13-17
 Crippled ships, 23
 Cruise missile submarines, classes of, 91
 Crush option, 28

D

Dardanelle Duty mission, 183-188
 Debriefing
 on Adriatic Detour mission, 177-179
 on Aegean Dogfight mission, 182-183
 on Archangel Vigil mission, 140-142
 on Backyard Boomers mission, 124-126
 on Baltic Duty mission, 160-162
 on Barbary Pirates mission, 191-192
 on Battle Royale mission, 132-133
 on Blockade Busting mission, 227-228
 on Boomer Hunt mission, 255-258
 on Channel Purge mission, 166-167
 on Chilly Reception mission, 145-146
 on Convoy Duty mission, 128-129
 on Dardanelle Duty mission, 186-188
 on Déjà Vu mission, 119-121
 on Duckshoot mission, 113-115
 on Evacuation mission, 232-233
 on Formosa Strait mission, 222-224
 on Indian Ocean Melee mission, 217-219
 on Invasion Alaska mission, 262-265
 on Iran-Busting mission, 212-214
 on Ivan Marches mission, 108-109
 on Kuril Invasion mission, 245-246
 on Med Cruise mission, 173-174
 on North Sea Melee mission, 149-150

on Pearl Bound mission, 270-271
 on Red Sea Run mission, 203-204
 on Sakhalin Surprise mission, 250-251
 on Secret Service mission, 207-208
 on Suez Dodge mission, 196-197
 on Surf Hunt mission, 275-276
 on Sweden Bound mission, 158-159
 on Thread the Skag mission, 154-155
 on Vladivostok Patrol mission, 239-241

Decibel (db), 5
 Déjà Vu mission, 115-121
 Delta I SSBN, 92
 Delta II SSBN, 92
 Delta III SSBN, 92
 Delta IV, 93
 Depth Command menu, 22, 27-28
 Depth of water, 7
 Desert Shield and Desert Storm, 63
 Detection and counter-detection, 13-17
 Detonate order, 33
 Diesel submarines, classes of, 96-97
 Direct control of weapons, 32-34
 Direct path ray, 9
 Display options, 21-23. *See also*
 Waterfall display
 Doolittle's raid on Tokyo, 62
 Down Therm option, 27
 Duckshoot mission, 110-115

E

East Meets West offensive, 199-233
 Blockade Busting mission, 224-228
 Evacuation mission, 229-233
 Formosa Strait mission, 219-224
 Indian Ocean Melee mission, 214-219
 Iran-Busting mission, 208-214
 Red Sea Run mission, 200-204
 Secret Service mission, 205-208
 Echo, 8
 Echo II SSGN, 91
 Edinburgh DDH, 87
 Electricity, source of, 11-12
 Electronic counter measure (ECM)
 equipment, 55-57
 Elite ASUW, 90
 Elite ASW, 90-91
 Elite SSBNs, 89

Emptying torpedo tube, 31
 ESM (Electronic Support) mast, 56
 Evacuation mission, 229-233
 Executive Officer's Comments
 on Adriatic Detour mission, 175
 on Archangel Vigil mission, 137
 on Backyard Boomers mission, 122
 on Baltic Duty mission, 160-162
 on Barbary Pirates mission, 190
 on Battle Royale mission, 130-131
 on Blockade Busting mission, 225
 on Boomer Hunt mission, 252
 on Channel Purge mission, 164
 on Chilly Reception mission, 143
 on Convoy Duty mission, 127
 on Dardanelle Duty mission, 184
 on Déjà Vu mission, 116-117
 on Duckshoot mission, 111
 on Evacuation mission, 230
 on Formosa Strait mission, 220
 on Indian Ocean Melee mission, 215-216
 on Invasion Alaska mission, 259
 on Iran-Busting mission, 209-210
 on Ivan Marches mission, 107
 on Kuril Invasion mission, 243
 on Med Cruise mission, 171
 on North Sea Melee mission, 147-148
 on Pearl Bound mission, 266
 on Red Sea Run mission, 201
 on Sakhalin Surprise mission, 248
 on Secret Service mission, 205-206
 on Suez Dodge mission, 193
 on Surf Hunt mission, 272
 on Sweden Bound mission, 156
 on Thread the Skag mission, 151
 on Vladivostok Patrol mission, 237

F

Fire command, 31
 Fire-control solution, 44
 Fish
 scattering and, 8
 waterfall display showing, 36
 Flooding torpedo tube, 30-31
 Flow noise, 11
 Focusing in close-ups, 22
 Formosa Strait mission, 219-224
 Foxtrot SS, 97

G

Garcia FF, 82
German U-boat campaign, 52
Guidelines for ships, 70

H

Han SSN, 95
Harpoons, 31
 data on, 98-99
 tactical situations, use in, 58
Haruna DD, 73
Heading Command menu, 28-29
Heading option, 28
Headings, 35
Helicopters, 97
High-frequency sound, 8
Hints
 on Boomer Hunt mission, 258
 for increasing chances of survival, 72
 on Invasion Alaska mission, 265
 on Pearl Bound mission, 271
 on Sakhalin Surprise mission, 251
 on Surf Hunt mission, 276
 two submarines in direct path of
 convoy, 246
Hi Res option, 22
Hold option, 27

I

Immediate only threat, 47
Indian Ocean Melee mission, 214-219
Intelligence Report
 on Adriatic Detour mission, 174-175
 on Aegean Dogfight mission, 179
 on Archangel Vigil mission, 136
 on Backyard Boomers mission, 121
 on Baltic Duty mission, 159
 on Barbary Pirates mission, 189
 on Battle Royale mission, 130
 on Blockade Busting mission, 224
 on Boomer Hunt mission, 251-252
 on Channel Purge mission, 164
 on Chilly Reception mission, 142
 on Convoy Duty mission, 126
 on Dardanelle Duty mission, 183
 on Déjà Vu mission, 116
 on Duckshoot mission, 110

 on Evacuation mission, 229
 on Formosa Strait mission, 219
 on Indian Ocean Melee mission,
 214-215
 on Invasion Alaska mission, 258-259
 on Iran-Busting mission, 209
 on Ivan Marches mission, 106-107
 on Kuril Invasion mission, 242
 on Med Cruise mission, 170
 on North Sea Melee mission, 147
 on Pearl Bound mission, 266
 on Red Sea Run mission, 200-201
 on Sakhalin Surprise mission, 247
 on Secret Service mission, 205
 on Suez Dodge mission, 192
 on Surf Hunt mission, 271-272
 on Sweden Bound mission, 155
 on Thread the Skag mission, 150-151
 on Vladivostok Patrol mission, 236
Invasion Alaska mission, 258-265
Iowa BB, 82-83
Iran-Busting mission, 208-214
Ivan Marches mission, 106-109
Ivan Rogov LPD, 74-75

J

JCS threat briefing, 105-106
 on Calm Before the Storm offensive,
 105-106
 on East Meets West offensive,
 199-200
 on Mediterranean Nights offensive,
 169-170
 on Northern Lights offensive, 135
 on Seven Days in Hell offensive, 235
Jianghu FFL, 72-73

K

Kidd DDG, 83
Kiev CV, 75
Kill zones, 49
Kilo SS, 96-97
Kirov CGH, 76
Knox FF, 83
Koni FF, 76
Kresta I CG, 77
Kresta II CG, 77
Kriegsmarine, 51

Krivak I FFG, 78
Krivak II FFG, 78
Kuril Invasion mission, 242-246
Kynda CG, 78-79

L

Land attack mission, 63
Libya, Barbary Pirates mission in,
 189-192
Load option for torpedoes, 30
Long Range torpedoes, 33
Low-frequency sound, 8
Low-speed passive ops, 14

M

Med Cruise mission, 170-174
Mediterranean Nights offensive,
 169-197
 Adriatic Detour mission, 174-179
 Aegean Dogfight mission, 179-183
 Barbary Pirates mission, 189-192
 Dardanelle Duty mission, 183-188
 Med Cruise mission, 170-174
 Suez Dodge mission, 192-197
Merchant ships, 87-88
Mirka II FFL, 79
Missile option, 31
Missiles. *See also* specific types
 types of, 98-101
Mk 32, 102
Mk 37 MOD 0 and 3, 102
Mk 44, 102
Mk 46, 103
Mk 48, 103
 guidance cables, 124
Mk 50, 103
Modems, Radio Command menu for,
 37-39
Moskva CGH, 79-80
Multiple-layer passive ops, 16-17

N

Nanuchka III FFL, 80
Narrowband noise, 10, 11-12
Neither potent or immediate threat, 47
Nimitz CVN, 84

Noise

ambient noise, 12
 broadband noise, 10-11
 narrowband noise, 10, 11-12
 self noise, 13
 speed and, 29
 transient noise, 13

Noise Maker option, 32

Northern Lights offensive, 135-167
 Archangel Vigil mission, 136-142
 Baltic Duty mission, 159-163
 Channel Purge mission, 163-167
 Chilly Reception mission, 142-146
 North Sea Melee mission, 146-150
 Sweden Bound mission, 155-159
 Thread the Skag mission, 150-155

North Sea Melee mission, 146-150

November SSN, 94

Novice ASUW, 89

Novice ASW, 90

Novice SSBNs, 89

Nuclear attack submarines, classes of, 94-96

O

Ocean layering, 4-5

Ohio Class SSBN, 93-94

Oliver Hazard Perry FFGH, 84

Operations Desert Shield and Desert Storm, 63

Order of Battle (OOB), 46

Order of engagement, 46-47

P

Passive operations, 8

Passive ops below layer, 14-15

Pearl Bound mission, 265-271

Peri Dpt option, 27

Periscope depth, 23, 27

Periscope option, 22

Permit SSN, 96

Point defense system, 57-58

Port view, 24

Potent and immediate threats, 47

Potent only threat, 47

Power Projection, 62-65

 bastions, hunting in, 63-65

Prefs option, 20

Previous button, 20

Punitive raids, 62-63

R

Radio Command menu, 37-39
 CHAT message screen, 38
 Red Sea Run mission, 200-204
 RGM-84A missiles. *See* Harpoons
 ROE. *See* Rules of Engagement (ROE)
 Rubis SNA, 96
 Rules of Engagement (ROE), 12, 45-50
 on Adriatic Detour mission, 175
 on Aegean Dogfight mission, 180
 on Archangel Vigil mission, 137
 on Backyard Boomers mission, 122
 on Baltic Duty mission, 160
 on Barbary Pirates mission, 189
 on Battle Royale mission, 130
 on Blockade Busting mission, 225
 on Boomer Hunt mission, 252
 on Channel Purge mission, 164
 on Chilly Reception mission, 143
 on Convoy Duty mission, 127
 on Dardanelle Duty mission, 184
 on Déjà Vu mission, 116
 on Duckshoot mission, 111
 on Evacuation mission, 229
 on Formosa Strait mission, 220
 on Indian Ocean Melee mission, 215
 on Invasion Alaska mission, 259
 on Iran-Busting mission, 209
 on Ivan Marches mission, 107
 on Kuril Invasion mission, 243
 on Med Cruise mission, 170
 on North Sea Melee mission, 147
 order of engagement, 46-47
 on Pearl Bound mission, 266
 on Red Sea Run mission, 201
 on Sakhalin Surprise mission, 247
 on Secret Service mission, 205
 on Suez Dodge mission, 193
 on Surf Hunt mission, 272
 on Sweden Bound mission, 156
 on Thread the Skag mission, 151
 on Vladivostok Patrol mission, 237

S

Sacramento AOE, 84-85
 Sakhalin Surprise mission, 247-251
 Sandbox missile, 100
 Sayany Salvage/Rescue, 80
 Scattering, 6
 attenuation and, 8

Screw noise, 28

Sea Command, 42-43

Sea Control, 44-51

Sea Denial, 51

Sea Lance, 32, 103

Sea lines of communication (SLOC), 52, 53

Secret Service mission, 205-208

Self noise, 13

Set Way option, 25

Seven Days in Hell offensive, 235-276

Boomer Hunt mission, 251-258

Invasion Alaska mission, 258-265

Kuril Invasion mission, 242-246

Pearl Bound mission, 265-271

Sakhalin Surprise mission, 247-251

Surf Hunt mission, 271-276

Vladivostok Patrol mission, 236-241

Shaddock missiles, 99

Shadow zone, 10

Ship Control Panel (SCP), 21

Ships. *See* Surface ships

Shipwreck missile, 101

Side-scanning sonar, 23

Silex missile, 100

Silt and absorption loss, 6-7

Siren missile, 99

Situation Report

 on Aegean Dogfight mission, 179

 on Archangel Vigil mission, 136

 on Backyard Boomers mission, 121

 on Baltic Duty mission, 159

 on Barbary Pirates mission, 189

 on Battle Royale mission, 129-130

 on Blockade Busting mission, 224

 on Boomer Hunt mission, 251

 on Channel Purge mission, 163

 on Chilly Reception mission, 142

 on Convoy Duty mission, 126

 on Dardanelle Duty mission, 183

 on Déjà Vu mission, 115

 on Duckshoot mission, 110

 on Evacuation mission, 229

 on Formosa Strait mission, 219

 on Indian Ocean Melee mission, 214

 on Invasion Alaska mission, 258

 on Iran-Busting mission, 208-209

 on Ivan Marches mission, 106

 on Kuril Invasion mission, 242

 on Med Cruise mission, 170

 on North Sea Melee mission, 146

 on Pearl Bound mission, 265

- on Red Sea Run mission, 200
 on Sakhalin Surprise mission, 247
 on Secret Service mission, 205
 on Suez Dodge mission, 192
 on Surf Hunt mission, 271
 on Sweden Bound mission, 155
 on Thread the Skag mission, 150
 on Vladivostok Patrol mission, 236
- Slava CG, 80-81
 S-N-16 Stallion missile, 100
 Sonar Command menu, 34-37
 Sonar drills, 43
 Sonar transmission
 attenuation and, 8
 Sound channel, 10
 Sound propagation, 5-10
 Sound shorts, 42-43
 Sound signature, 12
 Sound velocity distribution, 8-10
 Sound waves, 5
 Sovremenny class DDs, 71, 81
 Speed menu, 29
 Spikes, 12
 Spreading loss, 6
 Spruance DD, 85
 SSBNs
 bastions, search in, 63-65
 elite SSBNs, 89
 escorting SSBNs, 47-48
 hints about, 276
 independent operation of, 16
 novice SSBNs, 89
 shorter ranges against, 15
 veteran SSBNs, 89
 SSGNs, 48-49
 SS-N-3A/B Shaddock missile, 99
 SS-N-3C Shaddock missile, 99
 SSNs
 layers for, 16-17
 shorter ranges against, 15
 SS-N-7 Star Bright missile, 99
 SS-N-9 Siren missile, 99
 SS-N-12 Sandbox missile, 100
 SS-N-14 Silex missile, 100
 SS-N-15 Starfish missile, 100
 SS-N-19 Shipwreck missile, 101
 SS-N-22 Sunburn missile, 101
 Stallion missile, 100
 Starboard view, 24
 Star Bright missile, 99
 Starfish missile, 100
 Stasis torpedoes, 30
- in bastions, 64
 Status Report, 21
 Sturgeon SSN, 96
 Submarines
 individual classes of, 91-97
 operating doctrine, 88-91
 Suez Dodge mission, 192-197
 Sunburn missile, 101
 Surface, ordering to, 27
 Surface blow, 27
 Surface boundary, 6
 Surface isothermal layer, 4
 Surface Search command, 33
 Surface ships, 13
 active sonar ops by, 17
 BSY-2 sonar suite detecting, 14
 classes of, 72-87
 guidelines for, 70
 Surface warfare doctrine, 70-71
 Surf Hunt mission, 271-276
 Survival, increasing chances of, 72
 Sweden Bound mission, 155-159
 Synopsis of Orders
 on Adriatic Detour mission, 175
 on Aegean Dogfight mission, 179-180
 on Archangel Vigil mission, 136-137
 on Backyard Boomers mission, 121-122
 on Baltic Duty mission, 160
 on Barbary Pirates mission, 189
 on Battle Royale mission, 130
 on Blockade Busting mission, 224-225
 on Boomer Hunt mission, 252
 on Channel Purge mission, 164
 on Chilly Reception mission, 142-143
 on Convoy Duty mission, 127
 on Dardanelle Duty mission, 184
 on Déjà Vu mission, 116
 on Duckshoot mission, 110
 on Evacuation mission, 229
 on Formosa Strait mission, 219
 on Indian Ocean Melee mission, 215
 on Invasion Alaska mission, 259
 on Iran-Busting mission, 209
 on Ivan Marches mission, 107
 on Kuril Invasion mission, 242
 on Med Cruise mission, 170
 on North Sea Melee mission, 147
 on Pearl Bound mission, 266
- on Red Sea Run mission, 201
 on Sakhalin Surprise mission, 247
 on Secret Service mission, 205
 on Suez Dodge mission, 193
 on Surf Hunt mission, 272
 on Sweden Bound mission, 156
 on Thread the Skag mission, 151
 on Vladivostok Patrol mission, 236
- T**
- TACSIM, 50-51, 61-62
 TACSIM One, 50-51
 solution to, 65-66
 TACSIM Two, 61-62
 solution to, 66-67
 Takatsuki DD, 73-74
 Targeting, 26
 on SSBNs, 64
 in torpedo attack, 59-61
 tracking distinguished, 44
 Task force escorts, 48-49
 Temperature, 8-9
 ocean layering, 4-5
 Test depth, 28
 Thermal layers in ocean, 4-5
 Thread the Skag mission, 150-155
 Threats. *See also* JCS threat briefing
 classes of, 46-47
 3-D map, 24
 Threshold of detection, 13
 Ticonderoga DDG, 85-86
 Tigerfish MK-24, 102
 Tips. *See* Hints
 TLAMs, 63
 Tomahawks, 31-32
 data on, 98
 tactical situations, use in, 58
 Top Down display, 21-22
 Torpedoes
 conducting attack with, 59-61
 direct control of, 32-34
 loading, 30
 location and firing of, 71
 stasis torpedoes, 30, 64
 Surface Search command, 33
 types of, 101-103
 wake homing torpedoes, 30
- Tracking, 44
 Tracks option, 29
 Trafalgar SSN, 95-96

Transient noise, 13
Transmission loss, 5
Typhoon SSBN, 93

U

U-boat campaign, 52
Uniform Code of Military Justice, 41
Up Therm option, 27
USSR 400MM Torpedo, 101-102
USSR 533MM Torpedo, 101

V

Veteran ASUW, 90

Veteran ASW, 90
Veteran SSBNs, 89
Victor I-III, 94
View menu, 23-24
Virginia CGN, 86
Vladivostok Patrol mission, 236-241
Vulcan Phalanx Close-In Weapons Systems (CIWS), 57-58

W

Wake homing torpedoes, 30
Warning conditions, 45
Warships, 70-71
Waterfall display, 35-37
target identification with, 26

Water temperature. *See* Temperature
Waypoint Command menu, 24-26
Waypoints, 24-26
Weapons Command menu, 29-34. *See also* Torpedoes
Weapons conditions, 45
Weapons Display option, 24
Weapons drills, 43

Y

Yankee SSBN, 91-92

NOW AVAILABLE

VIDEO GAME BOOKS

| | | |
|--|---------|------|
| Nintendo Games Secrets, Volumes 1, 2, 3, and 4 | \$12.95 | each |
| Nintendo Game Boy Secrets, Volumes 1 and 2 | \$12.95 | each |
| Sega Genesis Secrets, Volumes 1, 2, 3, and 4 | \$12.95 | each |
| Sega Genesis and Sega CD Secrets, Volume 5 | \$12.95 | |
| Official Sega Genesis Power Tips Book, 2nd Edition (in full color!) | \$14.95 | |
| TurboGrafx-16 and TurboExpress Secrets, Volumes 1 and 2 | \$11.95 | each |
| Super NES Games Secrets, Volumes 1, 2, 3, and 4 | \$12.95 | each |
| Super NES Games Unauthorized Power Tips Book | \$14.95 | |
| GamePro Presents: Nintendo Games Secrets Greatest Tips | \$11.95 | |
| GamePro Presents: Sega Genesis Games Secrets Greatest Tips Second Edition | \$11.95 | |
| Game Pro Presents: Super NES Games Secrets Greatest Tips | \$11.95 | |
| Super Mario World Game Secrets | \$12.95 | |
| The Legend of Zelda: A Link to the Past Game Secrets | \$12.95 | |
| Super Star Wars: The Official Strategy Guide | \$12.95 | |
| Super Empire Strikes Back Official Game Secrets | \$12.95 | |
| Battletoads: The Official Battlebook | \$12.95 | |
| Parent's Guide to Video Games | \$12.95 | |

COMPUTER GAME BOOKS

| | |
|---|---------|
| SimEarth: The Official Strategy Guide | \$19.95 |
| JetFighter II: The Official Strategy Guide | \$19.95 |
| Ultima: The Avatar Adventures | \$19.95 |
| A-Train: The Official Strategy Guide | \$19.95 |
| PowerMonger: The Official Strategy Guide | \$19.95 |
| Global Conquest: The Official Strategy Guide (with disk) | \$24.95 |
| Falcon 3: The Official Combat Strategy Book (with disk) | \$27.95 |
| Gunship 2000: The Official Strategy Guide | \$19.95 |
| Dynamix Great War Planes: The Ultimate Strategy Guide | \$19.95 |
| SimLife: The Official Strategy Guide | \$19.95 |
| Populous: The Official Strategy Guide | \$19.95 |
| Stunt Island: The Official Strategy Guide | \$19.95 |
| Ultima VII and Underworld: More Avatar Adventures | \$19.95 |
| X-Wing: The Official Strategy Guide | \$19.95 |
| Prince of Persia: The Official Strategy Guide | \$19.95 |
| Empire Deluxe: The Official Strategy Guide | \$19.95 |
| F-15 Strike Eagle III: The Official Strategy Guide (with disk) | \$24.95 |
| Lemmings: The Official Companion (with disk) | \$24.95 |
| Secret of Mana Official Game Secrets | \$14.95 |
| The 7th Guest: The Official Strategy Guide | \$19.95 |
| Myst: The Official Strategy Guide | \$19.95 |
| Return to Zork Adventurer's Guide | \$14.95 |
| Microsoft Flight Simulator: The Official Strategy Guide | \$19.95 |
| Strike Commander: The Official Strategy Guide | \$19.95 |
| Might and Magic Compendium: The Authorized Strategy Guide for Games I, II, III, and IV | \$19.95 |
| Computer Adventure Games Secrets | \$19.95 |
| SimCity 2000—Power, Politics, and Planning | \$19.95 |
| SimFarm Almanac: The Official Guide to SimFarm | \$19.95 |
| Quest for Glory: The Authorized Strategy Guide | \$19.95 |
| Master of Orion: The Official Strategy Guide | \$19.95 |
| SSN-21 Seawolf: The Official Strategy Guide | \$19.95 |

TO ORDER BOOKS

Please send me the following items:

| Quantity | Title | Unit Price | Total |
|-----------------------------------|-------|------------|---------|
| _____ | _____ | \$_____ | \$_____ |
| _____ | _____ | \$_____ | \$_____ |
| _____ | _____ | \$_____ | \$_____ |
| _____ | _____ | \$_____ | \$_____ |
| _____ | _____ | \$_____ | \$_____ |
| _____ | _____ | \$_____ | \$_____ |
| Subtotal | | | \$_____ |
| 7.25% SALES TAX (CALIFORNIA ONLY) | | | \$_____ |
| SHIPPING AND HANDLING* | | | \$_____ |
| TOTAL ORDER | | | \$_____ |

By telephone: With Visa or MC, call (916) 786-0426
Mon.-Fri. 9-4 PST. By mail: Just fill out the
information below and send with your remittance to:

PRIMA PUBLISHING
P.O. Box 1260BK
Rocklin, CA 95677

Satisfaction unconditionally guaranteed

Name _____

Address _____

City _____ State _____ Zip _____

Visa / MC# _____ Exp. _____

Signature _____

*\$4.00 shipping and handling charge for the first book, and \$0.50 for each additional book.

LURKING SILENTLY BENEATH THE WAVES, THE U.S.S. SEAWOLF CAN WIN OR LOSE WORLD WAR III!

As one of the most respected submarine skippers, you are in command of the *USS Seawolf*, the most advanced attack submarine in the U.S. Navy—and one of the few vessels that can turn the tide of battle against the reborn militant Soviet Union. You are expected to seek out and destroy enemy ships and submarines, escort high-value assets such as aircraft carriers and military convoys, and conduct crucial reconnaissance missions.

This is *Seawolf*, the newest, most challenging strategy game from Electronic Arts. *Seawolf: The Official Strategy Guide* is an indispensable survival tool for your tour of duty. Here, you learn about the treacherous intricacies of the ocean, an environment where thermal gradients, sound channels, and biological activity are of constant concern. What you hear translates into what you see—and what you don't see can kill you!

Author Ed Dille, a retired Naval officer who helped coordinate the first intelligence-gathering operation against the Soviet *Akula SSN* submarine, teaches you how to:

- Analyze onboard sensors and weapons systems in detail to become intimate with the capabilities and limitations of the boat you command
- Understand target classification, localization, and identification so thoroughly that you won't hesitate at the decisive instant
- Examine each of the 33 mission profiles and consider the mission simulations and alternative approaches



Seawolf: The Official Strategy Guide makes you proficient in tactical decision making and commands at sea. With the knowledge contained in its pages, you become a professional practitioner of the Silent Service. Lurking beneath the waves, you strike swiftly and decisively, then slip away unseen to return at your leisure—a predator of the deep!

THIS IS THE ONLY OFFICIAL STRATEGY GUIDE AVAILABLE!

ED DILLE was commissioned at the U.S. Naval Academy and is a fleet-qualified Tactical Action Officer. While aboard the *USS Knox* off of Vladivostok, he sighted a new-generation Soviet submarine, the *Akula SSN*, and began the first efforts to gather intelligence against that type of sub design. He is now Associate Editor for Electronic Games at *Electronic Games Magazine*, publishes regularly in *Computer Gaming World*, and is an online contributor to the Prodigy network.

ISBN 1-55958-527-7